In [1]:

```
#loading the required libraries
import pandas as pd
from matplotlib import pyplot as plt
import seaborn as sns
```

In [2]:

```
#loading the ipl matches dataset
ipl=pd.read_csv('matches.csv')
```

In [3]:

```
#having a glance at the first five records of the dataset
ipl.head()
```

Out[3]:

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

In [4]:

```
#Lookin at the number of rows and columns in the dataset
ipl.shape
```

Out[4]:

```
(636, 18)
```

In [5]:

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

Out[5]:

```
CH Gayle           18
YK Pathan          16
AB de Villiers     15
DA Warner          15
RG Sharma          14
                   ..
R Ashwin            1
MJ Lumb             1
Shoaib Akhtar       1
A Chandila          1
```

R McLaren 1
Name: player_of_match, Length: 201, dtype: int64

In [6]:

```
#Getting the top 10 players with most man of the match awards
ipl['player_of_match'].value_counts()[0:10]
```

Out[6]:

```
CH Gayle          18
YK Pathan         16
AB de Villiers    15
DA Warner         15
RG Sharma         14
SK Raina          14
MS Dhoni          13
G Gambhir         13
MEK Hussey        12
AM Rahane         12
Name: player_of_match, dtype: int64
```

In [12]:

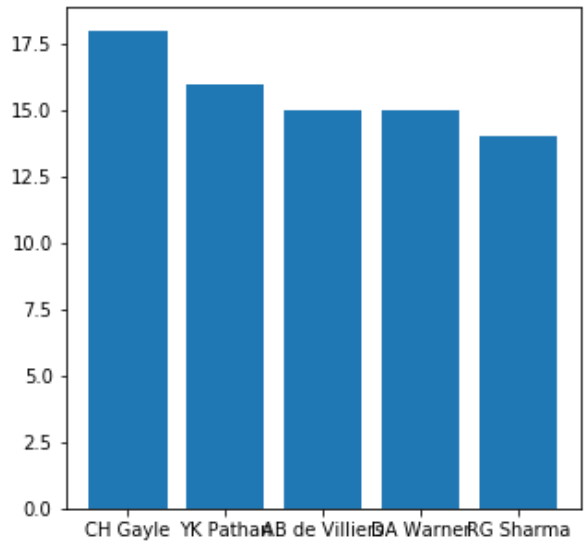
```
#Getting the top 5 players with most man of the match awards
ipl['player_of_match'].value_counts()[0:5]
```

Out[12]:

```
CH Gayle          18
YK Pathan         16
AB de Villiers    15
DA Warner         15
RG Sharma         14
Name: player_of_match, dtype: int64
```

In [13]:

```
#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_match
'].value_counts()[0:5]))
plt.show()
```



In [14]:

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

Out[14]:

```
normal       626
tie            7
no result      3
Name: result, dtype: int64
```

Name: result, dtype: int64

In [15]:

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

Out[15]:

```
Mumbai Indians                 85
Kolkata Knight Riders          78
Delhi Daredevils               72
Royal Challengers Bangalore    70
Kings XI Punjab                68
Chennai Super Kings            66
Rajasthan Royals               63
Deccan Chargers                43
Sunrisers Hyderabad            35
Pune Warriors                  20
Gujarat Lions                  15
Kochi Tuskers Kerala            8
Rising Pune Supergiants         7
Rising Pune Supergiant          6
Name: toss_winner, dtype: int64
```

In [16]:

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

In [17]:

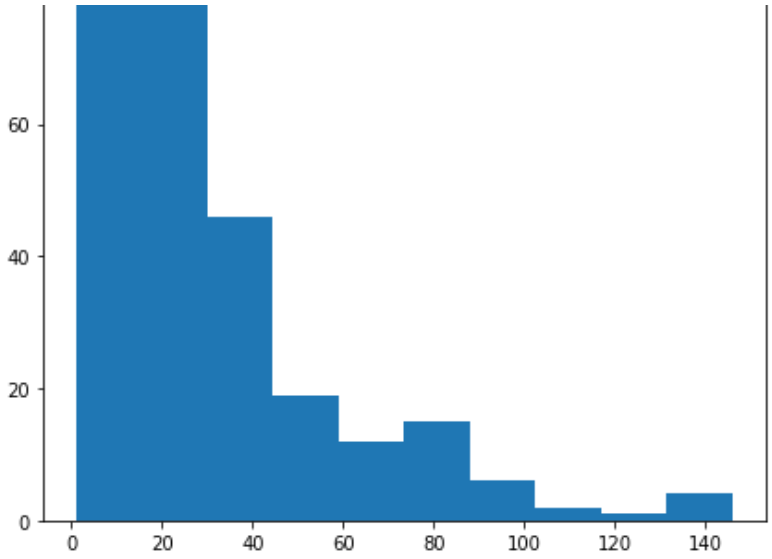
```
#Looking at the head
batting_first.head()
```

Out[17]:

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

In [18]:

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



In [20]:

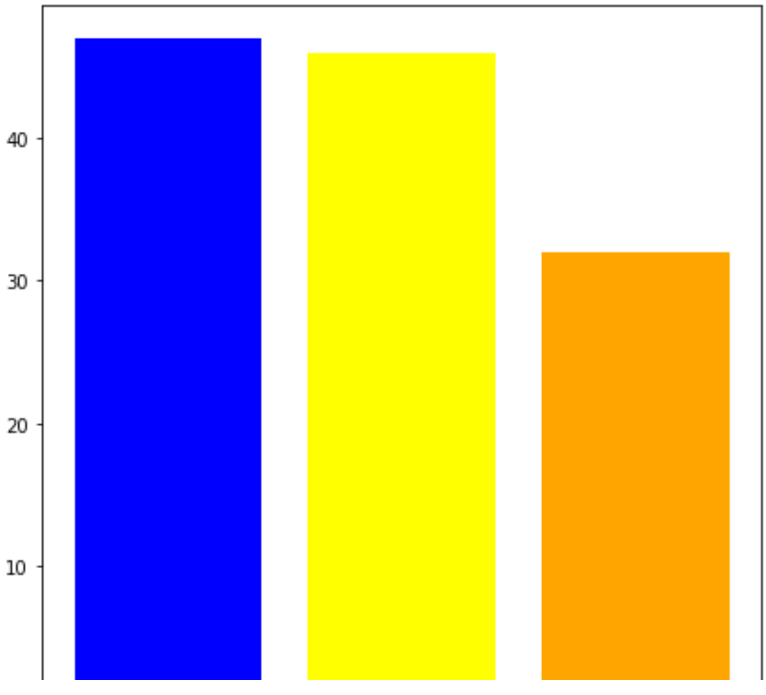
```
#Finding out the number of wins w.r.t each team after batting first
batting_first['winner'].value_counts()
```

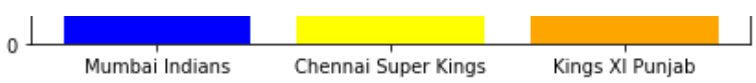
Out[20]:

```
Mumbai Indians                 47
Chennai Super Kings            46
Kings XI Punjab                32
Kolkata Knight Riders          31
Royal Challengers Bangalore    30
Rajasthan Royals               23
Sunrisers Hyderabad            23
Delhi Daredevils               21
Deccan Chargers                18
Pune Warriors                   6
Rising Pune Supergiant          5
Rising Pune Supergiants         2
Kochi Tuskers Kerala            2
Gujarat Lions                   1
Name: winner, dtype: int64
```

In [21]:

```
#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['winner'].value_counts()[0:3]),color=["blue","yellow","orange"])
plt.show()
```



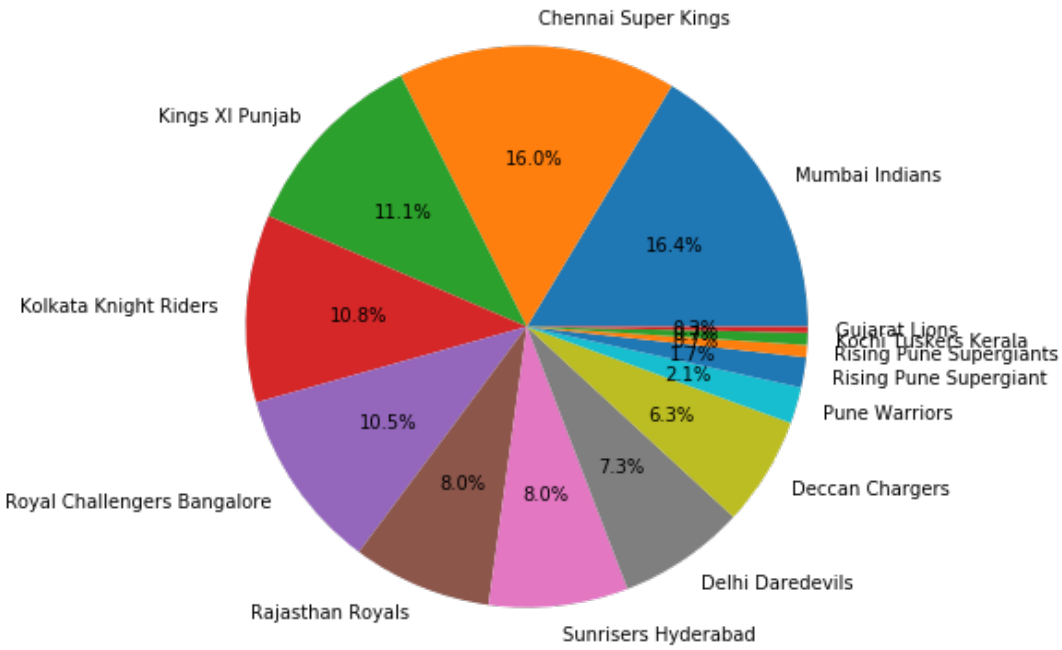


In [ ]:

```
```

In [24]:

```
#Making a pie chart
plt.figure(figsize=(7,7))
plt.pie(list(batting_first['winner'].value_counts()),labels=list(batting_first['winner'].
value_counts().keys()),autopct='%0.1f%%')
plt.show()
```



In [25]:

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

In [26]:

```
#looking at the head
batting_second.head()
```

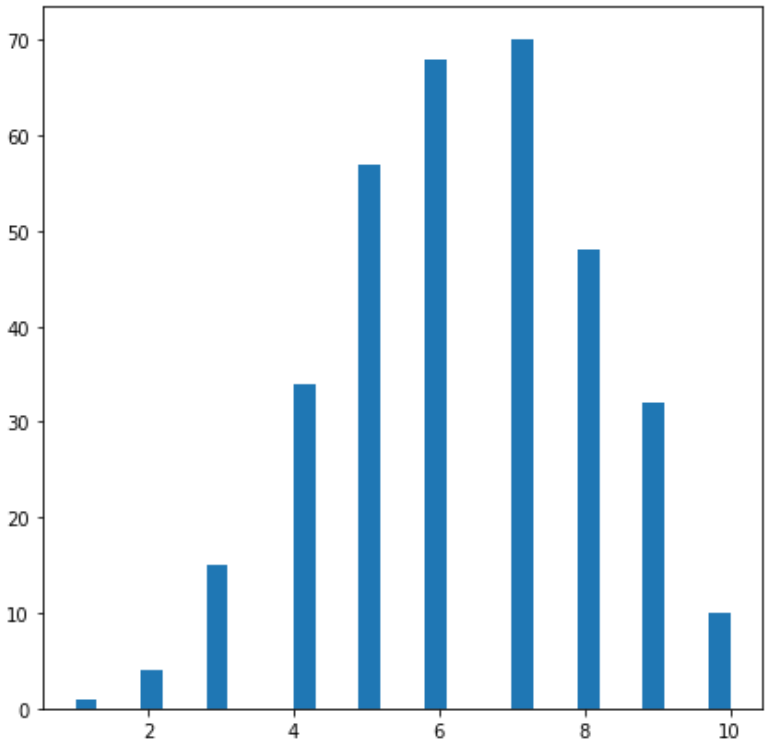
Out[26]:

	id	season	city	date	team1	team2	toss_winner	toss_decision	result	dl_applied	winner	win_by_
1	2	2017	Pune	2017-04-06	Mumbai Indians	Rising Pune Supergiant	Rising Pune Supergiant	field	normal	0	Rising Pune Supergiant	
2	3	2017	Rajkot	2017-04-07	Gujarat Lions	Kolkata Knight Riders	Kolkata Knight Riders	field	normal	0	Kolkata Knight Riders	
3	4	2017	Indore	2017-04-08	Rising Pune Supergiant	Kings XI Punjab	Kings XI Punjab	field	normal	0	Kings XI Punjab	
5	6	2017	Hyderabad	2017-04-09	Gujarat Lions	Sunrisers Hyderabad	Sunrisers Hyderabad	field	normal	0	Sunrisers Hyderabad	
					Kolkata							

	id	season	city	date	team1	team2	toss_winner	toss_decision	result	dl_applied	winner	win_by_
6	7	2017	Mumbai	2017-04-09	Knight Riders	Mumbai Indians	Mumbai Indians	field	normal	0	Mumbai Indians	win_by_

In [28]:

```
#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 [30]:

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

Out[30]:

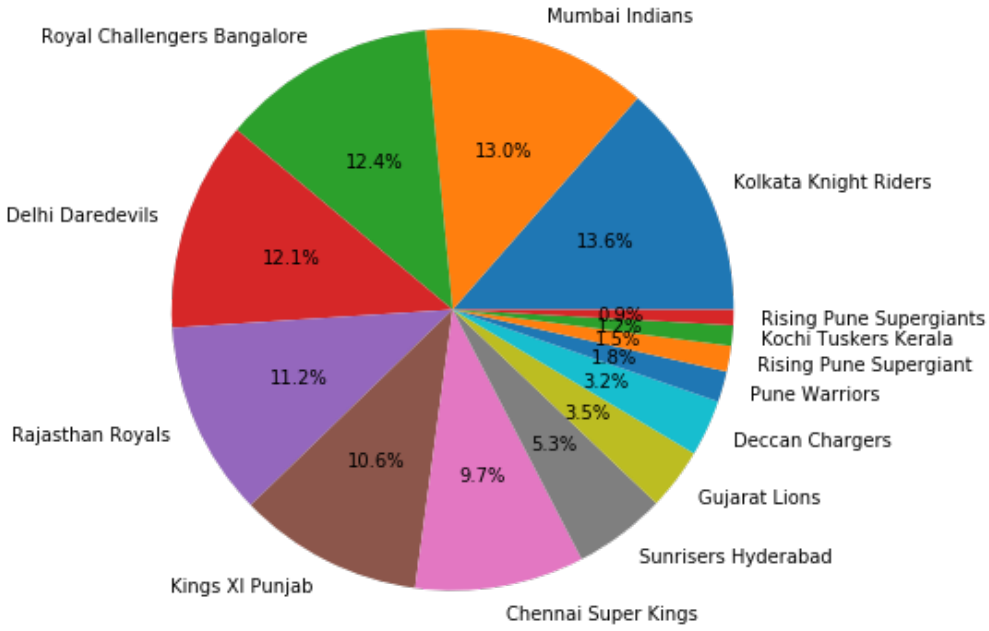
```
Kolkata Knight Riders          46
Mumbai Indians                 44
Royal Challengers Bangalore    42
Delhi Daredevils               41
Rajasthan Royals               38
Kings XI Punjab                36
Chennai Super Kings            33
Sunrisers Hyderabad            18
Gujarat Lions                  12
Deccan Chargers                11
Pune Warriors                   6
Rising Pune Supergiant          5
Kochi Tuskers Kerala            4
Rising Pune Supergiants         3
Name: winner, dtype: int64
```

In [29]:

```
#Making a bar plot for top-3 teams with most wins after batting second
plt.figure(figsize=(7,7))
plt.bar(list(batting_second['winner'].value_counts()[0:3].keys()),list(batting_second['winner'].value_counts()[0:3]),color=["blue","green","orange"])
plt.show()
```

In [31]:

```
#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['winner'
].value_counts().keys()),autopct='%0.1f%%')
plt.show()
```



In [32]:

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

Out[32]:

```
2013    76
2012    74
2011    73
2016    60
2014    60
2010    60
2017    59
2015    59
2008    58
2009    57
Name: season, dtype: int64
```

In [33]:

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

Out[33]:

```
Mumbai            85
Bangalore         66
Kolkata           61
Delhi             60
Hyderabad         49
Chennai           48
Chandigarh        46
Jaipur            33
Pune              32
Durban            15
Ahmedabad         12
Centurion         12
Visakhapatnam     11
Rajkot            10
Dharamsala         9
Johannesburg       8
Abu Dhabi          7
Ranchi             7
Port Elizabeth     7
Cape Town          7
Cuttack            7
Sharjah            6
Raipur             6
Indore             5
Kochi              5
Kanpur             4
Kimberley          3
East London        3
Nagpur             3
Bloemfontein       2
Name: city, dtype: int64
```

In [35]:

```
#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[35]:

```
325
```

In [36]:

```
325/636
```

Out[36]:

```
0.5110062893081762
```

In [37]:

```
deliveries=pd.read_csv('deliveries.csv')
```

In [38]:

```
deliveries.head()
```

Out[38]:

	match_id	inning	batting_team	bowling_team	over	ball	batsman	non_striker	bowler	is_super_over	...	bye_runs	legby
0	1	1	Sunrisers Hyderabad	Royal Challengers Bangalore	1	1	DA Warner	S Dhawan	TS Mills	0	...	0	

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

5 rows × 21 columns

In [39]:

```
deliveries['match_id'].unique()
```

Out[39]:

```
array([  1,   2,   3,   4,   5,   6,   7,   8,   9,  10,  11,  12,  13,
        14,  15,  16,  17,  18,  19,  20,  21,  22,  23,  24,  25,  26,
        27,  28,  29,  30,  31,  32,  33,  34,  35,  36,  37,  38,  39,
        40,  41,  42,  43,  44,  45,  46,  47,  48,  49,  50,  51,  52,
        53,  54,  55,  56,  57,  58,  59,  60,  61,  62,  63,  64,  65,
        66,  67,  68,  69,  70,  71,  72,  73,  74,  75,  76,  77,  78,
        79,  80,  81,  82,  83,  84,  85,  86,  87,  88,  89,  90,  91,
        92,  93,  94,  95,  96,  97,  98,  99, 100, 101, 102, 103, 104,
       105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117,
       118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130,
       131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143,
       144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156,
       157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169,
       170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182,
       183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195,
       196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208,
       209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221,
       222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234,
       235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247,
       248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260,
       261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273,
       274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286,
       287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299,
       300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312,
       313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325,
       326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338,
       339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351,
       352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364,
       365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377,
       378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390,
       391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403,
       404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416,
       417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429,
       430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442,
       443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455,
       456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468,
       469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481,
       482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494,
       495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507,
       508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520,
       521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533,
       534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546,
       547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559,
       560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572,
       573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585,
       586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598,
       599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611,
       612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624,
       625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636],
```

```
      dtype=int64)
```

In [40]:

```
match_1=deliveries[deliveries['match_id']==1]
```

In [41]:

```
match_1.head()
```

Out[41]:

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

5 rows × 21 columns

In [42]:

```
match_1.shape
```

Out[42]:

```
(248, 21)
```

In [43]:

```
srh=match_1[match_1['inning']==1]
```

In [44]:

```
srh['batsman_runs'].value_counts()
```

Out[44]:

```
1    57
0    32
4    17
6     9
2     9
3     1
Name: batsman_runs, dtype: int64
```

In [45]:

```
srh['dismissal_kind'].value_counts()
```

Out[45]:

```
caught    3
bowled    1
Name: dismissal_kind, dtype: int64
```

In [46]:

```
rcb=match_1[match_1['inning']==2]
```

In [47]:

```
rcb['batsman_runs'].value_counts()
```

Out[47]:

```
0    49
1    44
4    15
6     8
2     7
Name: batsman_runs, dtype: int64
```

In [48]:

```
rcb['dismissal_kind'].value_counts()
```

Out[48]:

```
caught      6
bowled      2
run out     2
Name: dismissal_kind, dtype: int64
```

In [ ]:

```

```