

```
In [1]: import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
```

```
In [2]: df = pd.read_csv("matches.csv")
```

```
In [3]: df
```

```
Out[3]:
```

	id	season	city	date	team1	team2	toss_winner	toss_decision	result	dl_applied	umpire1	umpire2
0	1	2017	Hyderabad	2017-04-05	Sunrisers Hyderabad	Royal Challengers Bangalore	Royal Challengers Bangalore	field	normal			
1	2	2017	Pune	2017-04-06	Mumbai Indians	Rising Pune Supergiant	Rising Pune Supergiant	field	normal			
2	3	2017	Rajkot	2017-04-07	Gujarat Lions	Kolkata Knight Riders	Kolkata Knight Riders	field	normal			
3	4	2017	Indore	2017-04-08	Rising Pune Supergiant	Kings XI Punjab	Kings XI Punjab	field	normal			
4	5	2017	Bangalore	2017-04-08	Royal Challengers Bangalore	Delhi Daredevils	Royal Challengers Bangalore	bat	normal			
...	
631	632	2016	Raipur	2016-05-22	Delhi Daredevils	Royal Challengers Bangalore	Royal Challengers Bangalore	field	normal			
632	633	2016	Bangalore	2016-05-24	Gujarat Lions	Royal Challengers Bangalore	Royal Challengers Bangalore	field	normal			
633	634	2016	Delhi	2016-05-25	Sunrisers Hyderabad	Kolkata Knight Riders	Kolkata Knight Riders	field	normal			
634	635	2016	Delhi	2016-05-27	Gujarat Lions	Sunrisers Hyderabad	Sunrisers Hyderabad	field	normal			
635	636	2016	Bangalore	2016-05-29	Sunrisers Hyderabad	Royal Challengers Bangalore	Sunrisers Hyderabad	bat	normal			

636 rows × 18 columns

In [8]: `df.isnull()`

	id	season	city	date	team1	team2	toss_winner	toss_decision	result	dl_applied	winner
0	False	False	False	False	False	False	False	False	False	False	False
1	False	False	False	False	False	False	False	False	False	False	False
2	False	False	False	False	False	False	False	False	False	False	False
3	False	False	False	False	False	False	False	False	False	False	False
4	False	False	False	False	False	False	False	False	False	False	False
...
631	False	False	False	False	False	False	False	False	False	False	False
632	False	False	False	False	False	False	False	False	False	False	False
633	False	False	False	False	False	False	False	False	False	False	False
634	False	False	False	False	False	False	False	False	False	False	False
635	False	False	False	False	False	False	False	False	False	False	False

636 rows × 18 columns

In [5]: `df.head()`

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

In [6]: `df.tail()`

Out[6]:	id	season	city	date	team1	team2	toss_winner	toss_decision	result	dl_applied
	631	632	2016	Raipur	2016-05-22	Delhi Daredevils	Royal Challengers Bangalore	Royal Challengers Bangalore	field	normal
	632	633	2016	Bangalore	2016-05-24	Gujarat Lions	Royal Challengers Bangalore	Royal Challengers Bangalore	field	normal
	633	634	2016	Delhi	2016-05-25	Sunrisers Hyderabad	Kolkata Knight Riders	Kolkata Knight Riders	field	normal
	634	635	2016	Delhi	2016-05-27	Gujarat Lions	Sunrisers Hyderabad	Sunrisers Hyderabad	field	normal
	635	636	2016	Bangalore	2016-05-29	Sunrisers Hyderabad	Royal Challengers Bangalore	Sunrisers Hyderabad	bat	normal

◀ ▶

In [7]: `df.describe()`

Out[7]:	id	season	dl_applied	win_by_runs	win_by_wickets	umpire3
	count	636.000000	636.000000	636.000000	636.000000	636.000000
	mean	318.500000	2012.490566	0.025157	13.682390	3.372642
	std	183.741666	2.773026	0.156726	23.908877	3.420338
	min	1.000000	2008.000000	0.000000	0.000000	NaN
	25%	159.750000	2010.000000	0.000000	0.000000	NaN
	50%	318.500000	2012.000000	0.000000	0.000000	NaN
	75%	477.250000	2015.000000	0.000000	20.000000	7.000000
	max	636.000000	2017.000000	1.000000	146.000000	10.000000

In [8]: `df.info()`

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 636 entries, 0 to 635
Data columns (total 18 columns):
 #   Column           Non-Null Count  Dtype  
--- 
 0   id               636 non-null    int64  
 1   season            636 non-null    int64  
 2   city              629 non-null    object  
 3   date              636 non-null    object  
 4   team1             636 non-null    object  
 5   team2             636 non-null    object  
 6   toss_winner        636 non-null    object  
 7   toss_decision     636 non-null    object  
 8   result             636 non-null    object  
 9   dl_applied         636 non-null    int64  
 10  winner             633 non-null    object  
 11  win_by_runs        636 non-null    int64  
 12  win_by_wickets     636 non-null    int64  
 13  player_of_match    633 non-null    object  
 14  venue              636 non-null    object  
 15  umpire1            635 non-null    object  
 16  umpire2            635 non-null    object  
 17  umpire3            0 non-null     float64 
dtypes: float64(1), int64(5), object(12)
memory usage: 89.6+ KB
```

```
In [9]: # Total number of Column and rows presents in data sets
df.shape
```

```
Out[9]: (636, 18)
```

```
In [10]: # returns the total no.of rows presents in datasets
df.shape[0]
```

```
Out[10]: 636
```

```
In [11]: # returns the total no.of columns presents in datasets
df.shape[1]
```

```
Out[11]: 18
```

```
In [12]: # iloc is the function provide specific rows information
df.iloc[0]
```

```
Out[12]:
```

id		1
season		2017
city		Hyderabad
date		2017-04-05
team1	Sunrisers	Hyderabad
team2	Royal Challengers	Bangalore
toss_winner	Royal Challengers	Bangalore
toss_decision		field
result		normal
dl_applied		0
winner	Sunrisers	Hyderabad
win_by_runs		35
win_by_wickets		0
player_of_match		Yuvraj Singh
venue	Rajiv Gandhi International Stadium,	Uppal
umpire1		AY Dandekar
umpire2		NJ Llong
umpire3		NaN

Name: 0, dtype: object

```
In [13]: # fetch the specific column information
df.iloc[0,7]
```

```
Out[13]: 'field'
```

```
In [14]: df.iloc[0,14]
```

```
Out[14]: 'Rajiv Gandhi International Stadium, Uppal'
```

```
In [15]: # fetch specific rows from dataset
df.iloc[[0,7,2]]
```

```
Out[15]:
```

	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	
7	8	2017	Indore	2017-04-10	Royal Challengers Bangalore	Kings XI Punjab	Royal Challengers Bangalore	bat	normal	
2	3	2017	Rajkot	2017-04-07	Gujarat Lions	Kolkata Knight Riders	Kolkata Knight Riders	field	normal	

```
In [16]: df.index
```

```
Out[16]: RangeIndex(start=0, stop=636, step=1)
```

```
In [17]: df['winner']
```

```
Out[17]: 0           Sunrisers Hyderabad
          1           Rising Pune Supergiant
          2           Kolkata Knight Riders
          3           Kings XI Punjab
          4           Royal Challengers Bangalore
          ...
          631      Royal Challengers Bangalore
          632      Royal Challengers Bangalore
          633      Sunrisers Hyderabad
          634      Sunrisers Hyderabad
          635      Sunrisers Hyderabad
Name: winner, Length: 636, dtype: object
```

```
In [18]: type(df['winner'])
```

```
Out[18]: pandas.core.series.Series
```

```
In [19]: # convert series into dataframes use 'reset_index()'.
df['winner'].reset_index()
```

	index	winner
0	0	Sunrisers Hyderabad
1	1	Rising Pune Supergiant
2	2	Kolkata Knight Riders
3	3	Kings XI Punjab
4	4	Royal Challengers Bangalore
...
631	631	Royal Challengers Bangalore
632	632	Royal Challengers Bangalore
633	633	Sunrisers Hyderabad
634	634	Sunrisers Hyderabad
635	635	Sunrisers Hyderabad

636 rows × 2 columns

```
In [20]: type(df['winner'].reset_index())
```

```
Out[20]: pandas.core.frame.DataFrame
```

```
In [21]: # Total Win by each teams/// this is series type..
df['winner'].value_counts()
```

```
Out[21]: Mumbai Indians      92
          Chennai Super Kings  79
          Kolkata Knight Riders 77
          Royal Challengers Bangalore 73
          Kings XI Punjab       70
          Rajasthan Royals     63
          Delhi Daredevils     62
          Sunrisers Hyderabad   42
          Deccan Chargers       29
          Gujarat Lions         13
          Pune Warriors         12
          Rising Pune Supergiant 10
          Kochi Tuskers Kerala   6
          Rising Pune Supergiants 5
          Name: winner, dtype: int64
```

```
In [64]: # series type
myseries=df['winner'].value_counts()
myseries
```

```
Out[64]: Mumbai Indians      92
          Chennai Super Kings  79
          Kolkata Knight Riders 77
          Royal Challengers Bangalore 73
          Kings XI Punjab       70
          Rajasthan Royals     63
          Delhi Daredevils     62
          Sunrisers Hyderabad   42
          Deccan Chargers       29
          Gujarat Lions         13
          Pune Warriors         12
          Rising Pune Supergiant 10
          Kochi Tuskers Kerala   6
          Rising Pune Supergiants 5
          Name: winner, dtype: int64
```

```
In [65]: # fetch specific value[Royal Challengers Bangalore won 73 matches ]
myseries['Royal Challengers Bangalore']
```

```
Out[65]: 73
```

```
In [68]: # so here team1 played number of matches
df['team1'].value_counts()
```

```
Out[68]: Mumbai Indians      82
          Kings XI Punjab     77
          Chennai Super Kings  77
          Royal Challengers Bangalore 70
          Kolkata Knight Riders 68
          Delhi Daredevils     63
          Rajasthan Royals     54
          Sunrisers Hyderabad   46
          Deccan Chargers       43
          Pune Warriors         20
          Gujarat Lions         14
          Rising Pune Supergiant 8
          Kochi Tuskers Kerala   7
          Rising Pune Supergiants 7
          Name: team1, dtype: int64
```

```
In [69]: # so here team2 played number of matches  
df['team2'].value_counts()
```

```
Out[69]: Delhi Daredevils      84  
Royal Challengers Bangalore  82  
Kolkata Knight Riders       80  
Mumbai Indians              75  
Kings XI Punjab             71  
Rajasthan Royals            64  
Chennai Super Kings         54  
Deccan Chargers              32  
Sunrisers Hyderabad          30  
Pune Warriors                26  
Gujarat Lions                16  
Rising Pune Supergiant       8  
Kochi Tuskers Kerala         7  
Rising Pune Supergiants      7  
Name: team2, dtype: int64
```

```
In [89]: # find total matches played by team1 and team2  
(df['team1'].value_counts()+df['team2'].value_counts()).sort_values(ascending=False)
```

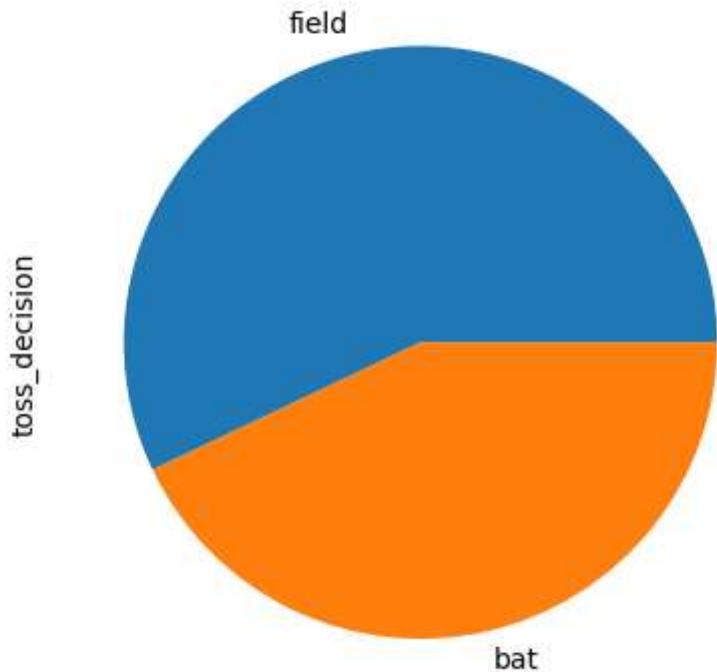
```
Out[89]: Mumbai Indians      157  
Royal Challengers Bangalore  152  
Kings XI Punjab             148  
Kolkata Knight Riders        148  
Delhi Daredevils             147  
Chennai Super Kings          131  
Rajasthan Royals             118  
Sunrisers Hyderabad           76  
Deccan Chargers               75  
Pune Warriors                 46  
Gujarat Lions                  30  
Rising Pune Supergiant        16  
Kochi Tuskers Kerala          14  
Rising Pune Supergiants        14  
dtype: int64
```

```
In [72]: # total decision  
df['toss_decision'].value_counts()
```

```
Out[72]: field    363  
bat      273  
Name: toss_decision, dtype: int64
```

```
In [73]: df['toss_decision'].value_counts().plot(kind='pie')
```

```
Out[73]: <Axes: ylabel='toss_decision'>
```



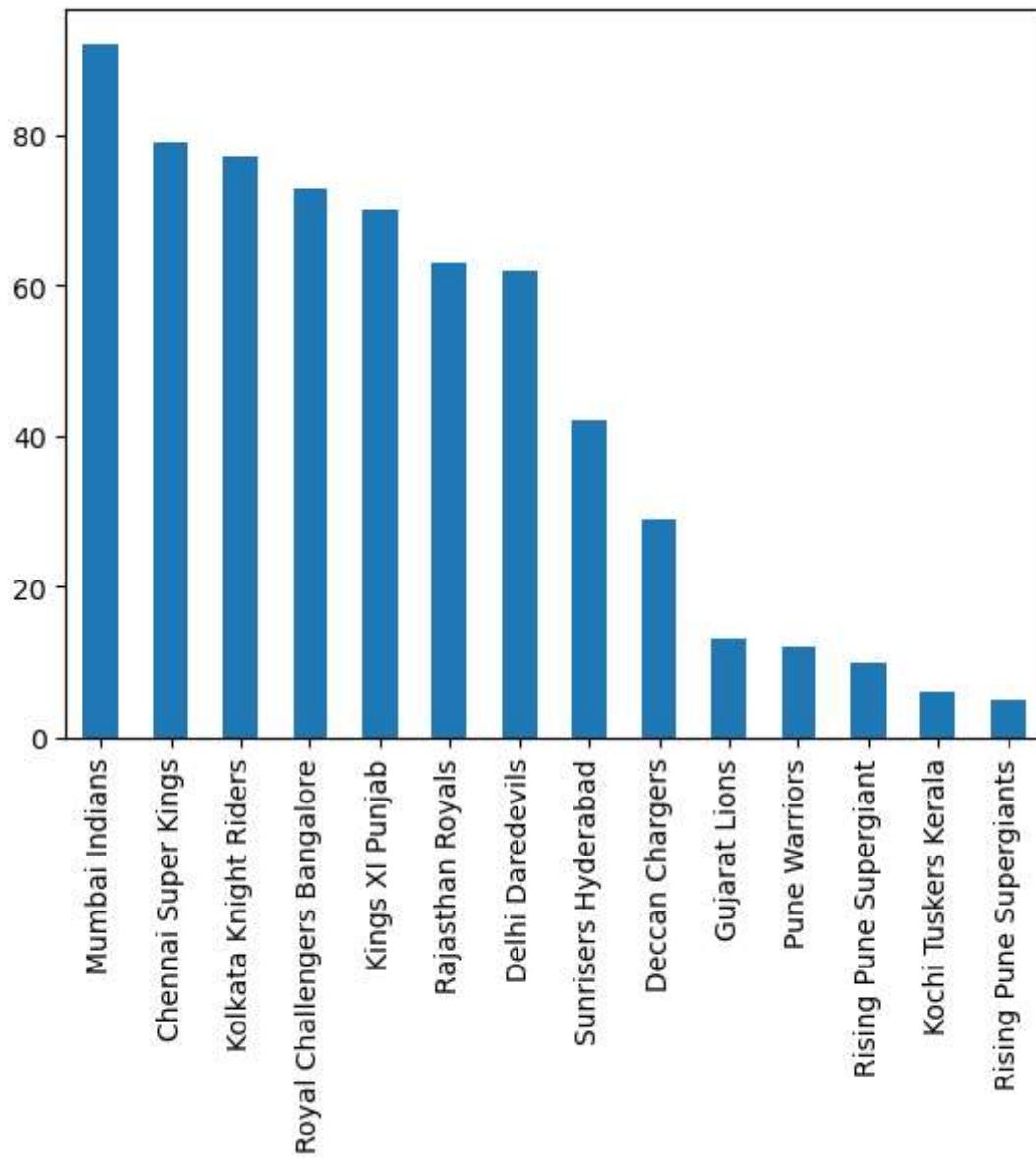
```
In [22]: # dataframe type..  
df['winner'].value_counts().reset_index()
```

Out[22]:

	index	winner
0	Mumbai Indians	92
1	Chennai Super Kings	79
2	Kolkata Knight Riders	77
3	Royal Challengers Bangalore	73
4	Kings XI Punjab	70
5	Rajasthan Royals	63
6	Delhi Daredevils	62
7	Sunrisers Hyderabad	42
8	Deccan Chargers	29
9	Gujarat Lions	13
10	Pune Warriors	12
11	Rising Pune Supergiant	10
12	Kochi Tuskers Kerala	6
13	Rising Pune Supergiants	5

```
In [23]: df['winner'].value_counts().plot(kind='bar')
```

Out[23]: <Axes: >



```
In [24]: mask=df['city']=='Hyderabad'  
mask.head(22)
```

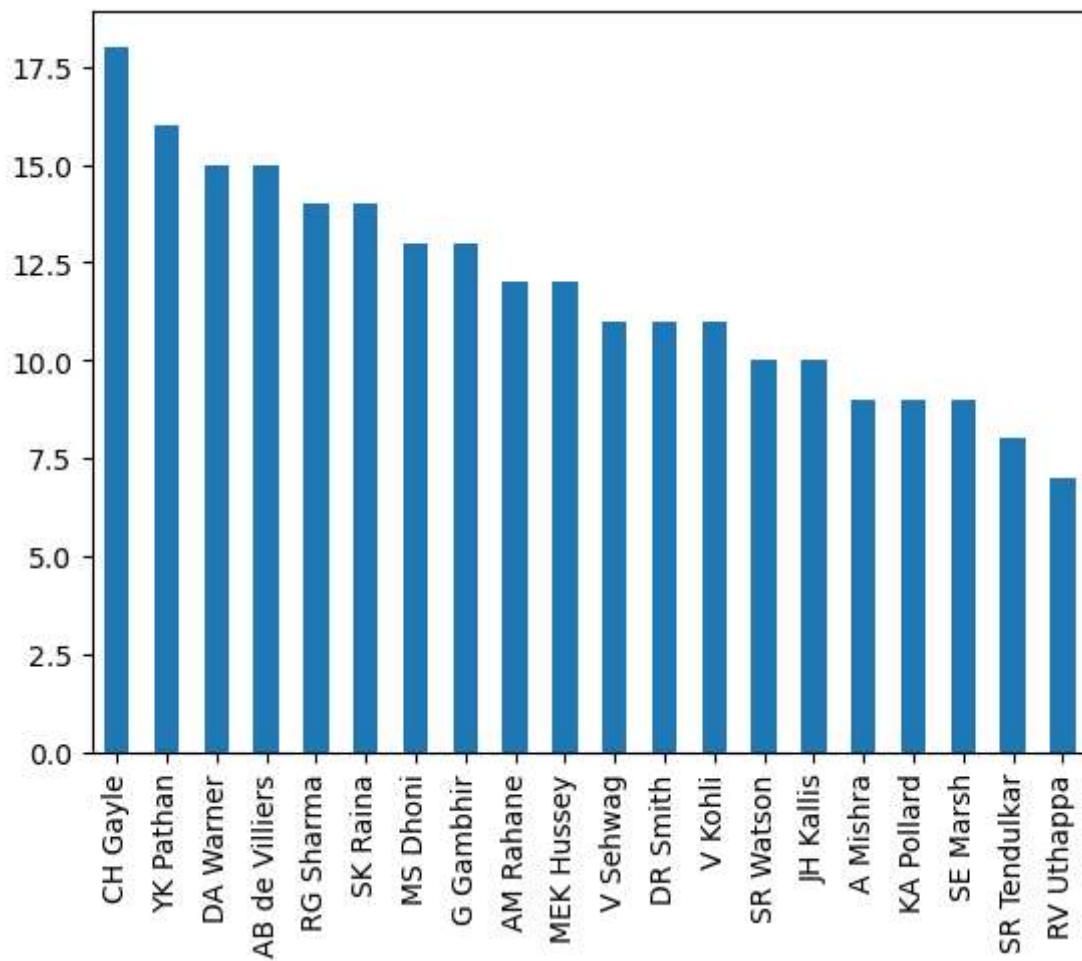
```
Out[24]: 0      True  
1     False  
2     False  
3     False  
4     False  
5      True  
6     False  
7     False  
8     False  
9     False  
10    False  
11    False  
12    False  
13    False  
14    False  
15    False  
16    False  
17    False  
18      True  
19    False  
20      True  
21    False  
Name: city, dtype: bool
```

```
In [59]: man_of_match=df['player_of_match'].value_counts().head(20)  
man_of_match
```

```
Out[59]: CH Gayle          18  
YK Pathan          16  
DA Warner          15  
AB de Villiers     15  
RG Sharma          14  
SK Raina           14  
MS Dhoni           13  
G Gambhir          13  
AM Rahane          12  
MEK Hussey         12  
V Sehwag           11  
DR Smith           11  
V Kohli            11  
SR Watson          10  
JH Kallis          10  
A Mishra           9  
KA Pollard         9  
SE Marsh            9  
SR Tendulkar       8  
RV Uthappa          7  
Name: player_of_match, dtype: int64
```

```
In [60]: man_of_match.plot(kind='bar')
```

```
Out[60]: <Axes: >
```



```
In [27]: df.drop_duplicates('season',keep='last')[['season','winner']]
```

Out[27]:

	season	winner
58	2017	Mumbai Indians
116	2008	Rajasthan Royals
173	2009	Deccan Chargers
233	2010	Chennai Super Kings
306	2011	Chennai Super Kings
380	2012	Kolkata Knight Riders
456	2013	Mumbai Indians
516	2014	Kolkata Knight Riders
575	2015	Mumbai Indians
635	2016	Sunrisers Hyderabad

```
In [28]: # fetch final winner along with team runnerup team, team1 and team2
winners=df.drop_duplicates('season',keep='last')[['season','team1','team2','winner']]
```

```
In [29]: winners
```

Out[29]:

	season	team1	team2	winner
116	2008	Chennai Super Kings	Rajasthan Royals	Rajasthan Royals
173	2009	Deccan Chargers	Royal Challengers Bangalore	Deccan Chargers
233	2010	Chennai Super Kings	Mumbai Indians	Chennai Super Kings
306	2011	Chennai Super Kings	Royal Challengers Bangalore	Chennai Super Kings
380	2012	Chennai Super Kings	Kolkata Knight Riders	Kolkata Knight Riders
456	2013	Mumbai Indians	Chennai Super Kings	Mumbai Indians
516	2014	Kings XI Punjab	Kolkata Knight Riders	Kolkata Knight Riders
575	2015	Mumbai Indians	Chennai Super Kings	Mumbai Indians
635	2016	Sunrisers Hyderabad	Royal Challengers Bangalore	Sunrisers Hyderabad
58	2017	Mumbai Indians	Rising Pune Supergiant	Mumbai Indians

In [30]:

```
# fetch final winner along with player_of_match
df.drop_duplicates('season',keep='last')[['season','team1','team2','winner','player_of_match']]
```

Out[30]:

	season	team1	team2	winner	player_of_match
58	2017	Mumbai Indians	Rising Pune Supergiant	Mumbai Indians	KH Pandya
116	2008	Chennai Super Kings	Rajasthan Royals	Rajasthan Royals	YK Pathan
173	2009	Deccan Chargers	Royal Challengers Bangalore	Deccan Chargers	A Kumble
233	2010	Chennai Super Kings	Mumbai Indians	Chennai Super Kings	SK Raina
306	2011	Chennai Super Kings	Royal Challengers Bangalore	Chennai Super Kings	M Vijay
380	2012	Chennai Super Kings	Kolkata Knight Riders	Kolkata Knight Riders	MS Bisla
456	2013	Mumbai Indians	Chennai Super Kings	Mumbai Indians	KA Pollard
516	2014	Kings XI Punjab	Kolkata Knight Riders	Kolkata Knight Riders	MK Pandey
575	2015	Mumbai Indians	Chennai Super Kings	Mumbai Indians	RG Sharma
635	2016	Sunrisers Hyderabad	Royal Challengers Bangalore	Sunrisers Hyderabad	BCJ Cutting

In [31]:

```
win=df.drop_duplicates('season',keep='last')[['season','winner','venue','win_by_runs']]
win.sort_values(by='season').reset_index()
```

Out[31]:	index	season	winner	venue	win_by_runs	win_by_wickets
0	116	2008	Rajasthan Royals	Dr DY Patil Sports Academy	0	3
1	173	2009	Deccan Chargers	New Wanderers Stadium	6	0
2	233	2010	Chennai Super Kings	Dr DY Patil Sports Academy	22	0
3	306	2011	Chennai Super Kings	MA Chidambaram Stadium, Chepauk	58	0
4	380	2012	Kolkata Knight Riders	MA Chidambaram Stadium, Chepauk	0	5
5	456	2013	Mumbai Indians	Eden Gardens	23	0
6	516	2014	Kolkata Knight Riders	M Chinnaswamy Stadium	0	3
7	575	2015	Mumbai Indians	Eden Gardens	41	0
8	635	2016	Sunrisers Hyderabad	M Chinnaswamy Stadium	8	0
9	58	2017	Mumbai Indians	Rajiv Gandhi International Stadium, Uppal	1	0

In [32]: `# this is boolean searies
df['city']=='Hyderabad'`

Out[32]:

0	True
1	False
2	False
3	False
4	False
	...
631	False
632	False
633	False
634	False
635	False

Name: city, Length: 636, dtype: bool

In [33]: `# now add in variable
fetch only city name of hyderabad
mask=df['city']=='Hyderabad'
df[mask]`

Out[33]:		id	season	city	date	team1	team2	toss_winner	toss_decision	result	dl_a
0	1	2017	Hyderabad	2017-04-05	Sunrisers Hyderabad	Royal Challengers Bangalore	Royal Challengers Bangalore	Royal Challengers Bangalore	field	normal	
5	6	2017	Hyderabad	2017-04-09	Gujarat Lions	Sunrisers Hyderabad	Sunrisers Hyderabad	Sunrisers Hyderabad	field	normal	
18	19	2017	Hyderabad	2017-04-17	Sunrisers Hyderabad	Kings XI Punjab	Kings XI Punjab	Kings XI Punjab	field	normal	
20	21	2017	Hyderabad	2017-04-19	Sunrisers Hyderabad	Delhi Daredevils	Sunrisers Hyderabad	Sunrisers Hyderabad	bat	normal	
35	36	2017	Hyderabad	2017-04-30	Sunrisers Hyderabad	Kolkata Knight Riders	Kolkata Knight Riders	Kolkata Knight Riders	field	normal	
42	43	2017	Hyderabad	2017-05-06	Rising Pune Supergiant	Sunrisers Hyderabad	Sunrisers Hyderabad	Sunrisers Hyderabad	field	normal	
46	47	2017	Hyderabad	2017-05-08	Mumbai Indians	Sunrisers Hyderabad	Sunrisers Hyderabad	Mumbai Indians	bat	normal	
58	59	2017	Hyderabad	2017-05-21	Mumbai Indians	Rising Pune Supergiant	Rising Pune Supergiant	Mumbai Indians	bat	normal	
65	66	2008	Hyderabad	2008-04-22	Deccan Chargers	Delhi Daredevils	Deccan Chargers	Deccan Chargers	bat	normal	
67	68	2008	Hyderabad	2008-04-24	Deccan Chargers	Rajasthan Royals	Rajasthan Royals	Rajasthan Royals	field	normal	
76	77	2008	Hyderabad	2008-05-01	Deccan Chargers	Kings XI Punjab	Kings XI Punjab	Kings XI Punjab	field	normal	
79	80	2008	Hyderabad	2008-05-25	Deccan Chargers	Royal Challengers Bangalore	Deccan Chargers	Deccan Chargers	bat	normal	
91	92	2008	Hyderabad	2008-05-11	Kolkata Knight	Deccan Chargers	Deccan Chargers	Kolkata Knight	bat	normal	

	id	season	city	date	team1	team2	toss_winner	toss_decision	result	dl_a
	101	102	2008	Hyderabad	2008-05-18	Mumbai Indians	Deccan Chargers	Deccan Chargers	field	normal
	113	114	2008	Hyderabad	2008-05-27	Deccan Chargers	Chennai Super Kings	Deccan Chargers	bat	normal
	235	236	2011	Hyderabad	2011-04-09	Deccan Chargers	Rajasthan Royals	Rajasthan Royals	field	normal
	244	245	2011	Hyderabad	2011-04-14	Deccan Chargers	Royal Challengers Bangalore	Royal Challengers Bangalore	field	normal
	248	249	2011	Hyderabad	2011-04-16	Deccan Chargers	Kings XI Punjab	Kings XI Punjab	field	normal
	259	260	2011	Hyderabad	2011-04-24	Mumbai Indians	Deccan Chargers	Deccan Chargers	field	normal
	274	275	2011	Hyderabad	2011-05-03	Kolkata Knight Riders	Deccan Chargers	Deccan Chargers	field	normal
	278	279	2011	Hyderabad	2011-05-05	Deccan Chargers	Delhi Daredevils	Delhi Daredevils	field	normal
	285	286	2011	Hyderabad	2011-05-10	Deccan Chargers	Pune Warriors	Deccan Chargers	bat	normal
	330	331	2012	Hyderabad	2012-05-10	Deccan Chargers	Delhi Daredevils	Deccan Chargers	bat	normal
	358	359	2012	Hyderabad	2012-05-08	Kings XI Punjab	Deccan Chargers	Deccan Chargers	field	normal
	372	373	2012	Hyderabad	2012-05-18	Rajasthan Royals	Deccan Chargers	Rajasthan Royals	bat	normal

	id	season	city	date	team1	team2	toss_winner	toss_decision	result	dl_a
	375	376	2012	Hyderabad	2012-05-20	Deccan Chargers	Royal Challengers Bangalore	Royal Challengers Bangalore	field	normal
	383	384	2013	Hyderabad	2013-04-05	Sunrisers Hyderabad	Pune Warriors	Pune Warriors	field	normal
	387	388	2013	Hyderabad	2013-04-07	Royal Challengers Bangalore	Sunrisers Hyderabad	Royal Challengers Bangalore	bat	tie
	404	405	2013	Hyderabad	2013-04-19	Kings XI Punjab	Sunrisers Hyderabad	Kings XI Punjab	bat	normal
	422	423	2013	Hyderabad	2013-05-01	Mumbai Indians	Sunrisers Hyderabad	Mumbai Indians	bat	normal
	427	428	2013	Hyderabad	2013-05-04	Delhi Daredevils	Sunrisers Hyderabad	Delhi Daredevils	bat	normal
	434	435	2013	Hyderabad	2013-05-08	Chennai Super Kings	Sunrisers Hyderabad	Sunrisers Hyderabad	field	normal
	448	449	2013	Hyderabad	2013-05-17	Sunrisers Hyderabad	Rajasthan Royals	Sunrisers Hyderabad	bat	normal
	452	453	2013	Hyderabad	2013-05-19	Kolkata Knight Riders	Sunrisers Hyderabad	Kolkata Knight Riders	bat	normal
	492	493	2014	Hyderabad	2014-05-12	Sunrisers Hyderabad	Mumbai Indians	Sunrisers Hyderabad	bat	normal
	495	496	2014	Hyderabad	2014-05-14	Sunrisers Hyderabad	Kings XI Punjab	Kings XI Punjab	field	normal
	499	500	2014	Hyderabad	2014-05-18	Sunrisers Hyderabad	Kolkata Knight Riders	Sunrisers Hyderabad	bat	normal
	502	503	2014	Hyderabad	2014-05-20	Royal Challengers	Sunrisers Hyderabad	Royal Challengers	bat	normal

	id	season	city	date	Bangalore	team1	team2	toss_winner	toss_decision	result	dl_a
550	551	2015	Hyderabad	2015-05-02	Sunrisers Hyderabad	Chennai Super Kings	Chennai Super Kings	Chennai Super Kings	field	normal	
563	564	2015	Hyderabad	2015-05-11	Sunrisers Hyderabad	Kings XI Punjab	Sunrisers Hyderabad	Sunrisers Hyderabad	bat	normal	
567	568	2015	Hyderabad	2015-05-15	Sunrisers Hyderabad	Royal Challengers Bangalore	Sunrisers Hyderabad	Sunrisers Hyderabad	bat	normal	
571	572	2015	Hyderabad	2015-05-17	Sunrisers Hyderabad	Mumbai Indians	Sunrisers Hyderabad	Sunrisers Hyderabad	bat	normal	
583	584	2016	Hyderabad	2016-04-16	Sunrisers Hyderabad	Kolkata Knight Riders	Sunrisers Hyderabad	Sunrisers Hyderabad	bat	normal	
587	588	2016	Hyderabad	2016-04-18	Mumbai Indians	Sunrisers Hyderabad	Sunrisers Hyderabad	Sunrisers Hyderabad	field	normal	
593	594	2016	Hyderabad	2016-04-23	Kings XI Punjab	Sunrisers Hyderabad	Sunrisers Hyderabad	Sunrisers Hyderabad	field	normal	
597	598	2016	Hyderabad	2016-04-26	Sunrisers Hyderabad	Rising Pune Supergiants	Rising Pune Supergiants	Rising Pune Supergiants	field	normal	
602	603	2016	Hyderabad	2016-04-30	Sunrisers Hyderabad	Royal Challengers Bangalore	Royal Challengers Bangalore	Royal Challengers Bangalore	field	normal	
609	610	2016	Hyderabad	2016-05-06	Gujarat Lions	Sunrisers Hyderabad	Sunrisers Hyderabad	Sunrisers Hyderabad	field	normal	
617	618	2016	Hyderabad	2016-05-12	Sunrisers Hyderabad	Delhi Daredevils	Delhi Daredevils	Delhi Daredevils	field	normal	

In [34]: # count total matches palyed in hyderabad
mask=df['city']=='Hyderabad'
df[mask].shape[0]

Out[34]: 49

```
In [35]: def get_city_matchcount(city):
    mask=df['city']==city
    return df[mask]
```

```
In [36]: get_city_matchcount('Mumbai').shape[0]
```

Out[36]: 85

```
In [38]: # fetch matches played in Mumbai after 2010
mask=df['city']=='Mumbai'
mask1=df['season']>2010
df[mask & mask1].shape[0]
```

Out[38]: 62

```
In [39]: def match_winner(winner):
    win=df['winner']==winner
    return df[win]
```

```
In [48]: match_winner('Mumbai Indians')
```

Out[48]:		id season		city	date	team1	team2	toss_winner	toss_decision	result	d
6	7	2017		Mumbai	2017-04-09	Kolkata Knight Riders	Mumbai Indians	Mumbai Indians		field	normal
9	10	2017		Mumbai	2017-04-12	Sunrisers Hyderabad	Mumbai Indians	Mumbai Indians		field	normal
11	12	2017		Bangalore	2017-04-14	Royal Challengers Bangalore	Mumbai Indians	Mumbai Indians		field	normal
15	16	2017		Mumbai	2017-04-16	Gujarat Lions	Mumbai Indians	Mumbai Indians		field	normal
21	22	2017		Indore	2017-04-20	Kings XI Punjab	Mumbai Indians	Mumbai Indians		field	normal
...	
596	597	2016		Chandigarh	2016-04-25	Mumbai Indians	Kings XI Punjab	Kings XI Punjab		field	normal
599	600	2016		Mumbai	2016-04-28	Kolkata Knight Riders	Mumbai Indians	Mumbai Indians		field	normal
604	605	2016		Pune	2016-05-01	Rising Pune Supergiants	Mumbai Indians	Mumbai Indians		field	normal
616	617	2016		Bangalore	2016-05-11	Royal Challengers Bangalore	Mumbai Indians	Mumbai Indians		field	normal
622	623	2016	Visakhapatnam		2016-05-15	Mumbai Indians	Delhi Daredevils	Delhi Daredevils		field	normal

92 rows × 18 columns

In [44]:	match_winner('Mumbai Indians').shape
Out[44]:	(92, 18)
In [97]:	# opening matches winner by each ipl season df.drop_duplicates('season',keep='first')[['season','team1','team2','winner',]].sort_\

Out[97]:

	season	team1	team2	winner
59	2008	Kolkata Knight Riders	Royal Challengers Bangalore	Kolkata Knight Riders
117	2009	Mumbai Indians	Chennai Super Kings	Mumbai Indians
174	2010	Kolkata Knight Riders	Deccan Chargers	Kolkata Knight Riders
234	2011	Chennai Super Kings	Kolkata Knight Riders	Chennai Super Kings
307	2012	Chennai Super Kings	Mumbai Indians	Mumbai Indians
381	2013	Delhi Daredevils	Kolkata Knight Riders	Kolkata Knight Riders
457	2014	Kolkata Knight Riders	Mumbai Indians	Kolkata Knight Riders
517	2015	Mumbai Indians	Kolkata Knight Riders	Kolkata Knight Riders
576	2016	Mumbai Indians	Rising Pune Supergiants	Rising Pune Supergiants
0	2017	Sunrisers Hyderabad	Royal Challengers Bangalore	Sunrisers Hyderabad

In []: