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In [1]: import pandas as pd
import matplotlib.pyplot as plt
import plotly as py
from plotly.offline import plot
import cufflinks as cf
%matplotlib inline

In [2]: cf.go_offline()
cf.set_config_file(offline=False, world_readable=True)
py.offline.init_notebook_mode()

In [3]: df_matches=pd.read_csv('E:/Projects/IPL_Project/data/matches.csv',index_col='id',parse_dates=['date'])

In [4]: df_matches

Out[4]:
season  city  date  team1  team2  toss_winner  toss_decision  result  dl_applied  winner  win_by_runs  win_by_wickets  player_of_match  venue  umpire1  umpire2  umpire3
id
1    2017  Hyderabad  2017-04-06  Sunrisers Hyderabad  Royal Challengers Bangalore  Royal Challengers Bangalore  field  normal  0  Sunrisers Hyderabad  35  0  Yuvraj Singh  Rajiv Gandhi International Stadium, Uppal  AV Dandekar  NJ Liong  NaN
2    2017  Pune  2017-04-06  Mumbai Indians  Rising Pune Supergiant  Rising Pune Supergiant  field  normal  0  Rising Pune Supergiant  0  7  SPD Smith  Maharashtra Cricket Association Stadium  A Nand Kishore  S Ravi  NaN
3    2017  Rajkot  2017-04-07  Gujarat Lions  Kolkata Knight Riders  Kolkata Knight Riders  field  normal  0  Kolkata Knight Riders  0  10  CA Lynn  Saurashtra Cricket Association Stadium  Nalin Meron  CK Nandan  NaN
4    2017  Indore  2017-04-08  Rising Pune Supergiant  Kings XI Punjab  Kings XI Punjab  field  normal  0  Kings XI Punjab  0  6  GJ Maxwell  M Chinnaswamy Stadium  AK Chaudhary  C Shamshuddin  NaN
5    2017  Bangalore  2017-04-08  Royal Challengers Bangalore  Delhi Daredevils  Royal Challengers Bangalore  bat  normal  0  Royal Challengers Bangalore  15  0  KM Jadhav  Chinnaswamy Stadium  M Chinnaswamy Stadium  NaN  NaN

... ..
632  2016  Raipur  2016-05-22  Delhi Daredevils  Royal Challengers Bangalore  Royal Challengers Bangalore  field  normal  0  Royal Challengers Bangalore  0  6  V Kohli  Shaheed Veer Narayan Singh International Stadium, Uppal  A Nand Kishore  BNJ Orentford  NaN
633  2016  Bangalore  2016-05-24  Gujarat Lions  Royal Challengers Bangalore  Royal Challengers Bangalore  field  normal  0  Royal Challengers Bangalore  0  4  AB de Villiers  Chinnaswamy Stadium  AK Chaudhary  HDPK Dharmasena  NaN
634  2016  Delhi  2016-05-25  Sunrisers Hyderabad  Kolkata Knight Riders  Kolkata Knight Riders  field  normal  0  Sunrisers Hyderabad  22  0  MC Henriques  Ferroz Shah Kotla  M Erasmus  C Shamshuddin  NaN
635  2016  Delhi  2016-05-27  Gujarat Lions  Sunrisers Hyderabad  Sunrisers Hyderabad  field  normal  0  Sunrisers Hyderabad  0  4  DA Warner  Ferroz Shah Kotla  M Erasmus  CK Nandan  NaN
636  2016  Bangalore  2016-05-29  Sunrisers Hyderabad  Royal Challengers Bangalore  Sunrisers Hyderabad  bat  normal  0  Sunrisers Hyderabad  8  0  BCJ Cutting  M Chinnaswamy Stadium  HDPK Dharmasena  BNJ Orentford  NaN

636 rows x 17 columns

In [5]: no_result_matches=df_matches['winner'].isnull().sum()
no_result_matches

Out[5]:
3

In [6]: winslost=df_matches[['team1','team2','winner']]
winslost

Out[6]:
id  team1  team2  winner
1  Sunrisers Hyderabad  Royal Challengers Bangalore  Sunrisers Hyderabad
2  Mumbai Indians  Rising Pune Supergiant  Rising Pune Supergiant
3  Gujarat Lions  Kolkata Knight Riders  Kolkata Knight Riders
4  Rising Pune Supergiant  Kings XI Punjab  Kings XI Punjab
5  Royal Challengers Bangalore  Delhi Daredevils  Royal Challengers Bangalore
... ..
632  Delhi Daredevils  Royal Challengers Bangalore  Royal Challengers Bangalore
633  Gujarat Lions  Royal Challengers Bangalore  Royal Challengers Bangalore
634  Sunrisers Hyderabad  Kolkata Knight Riders  Sunrisers Hyderabad
635  Gujarat Lions  Sunrisers Hyderabad  Sunrisers Hyderabad
636  Sunrisers Hyderabad  Royal Challengers Bangalore  Sunrisers Hyderabad

636 rows x 4 columns

In [7]: winslost['looser']=winslost.apply(lambda x:(x['team2'] if x['team1'] ==x['winner'] else x['team1']),axis=1)
winslost['looser']

Out[7]:
id  team1  team2  winner
1  Royal Challengers Bangalore  Mumbai Indians  Royal Challengers Bangalore
2  Mumbai Indians  Gujarat Lions  Mumbai Indians
3  Rising Pune Supergiant  Delhi Daredevils  Rising Pune Supergiant
4  Delhi Daredevils  Royal Challengers Bangalore  Royal Challengers Bangalore
632  Kolkata Knight Riders  Royal Challengers Bangalore  Kolkata Knight Riders
633  Gujarat Lions  Sunrisers Hyderabad  Sunrisers Hyderabad
634  Sunrisers Hyderabad  Royal Challengers Bangalore  Sunrisers Hyderabad
635  Royal Challengers Bangalore  Sunrisers Hyderabad  Sunrisers Hyderabad
636  Sunrisers Hyderabad  Sunrisers Hyderabad  Sunrisers Hyderabad
Name: looser, Length: 636, dtype: object

In [8]: wins=winslost['winner'].value_counts()
losses=winslost['looser'].value_counts()

In [9]: losses

Out[9]:
Delhi Daredevils      85
Royal Challengers Bangalore  78
Kings XI Punjab      78
Kolkata Knight Riders  71
Mumbai Indians       65
Rajasthan Royals     54
Chennai Super Kings  52
Deccan Chargers      46
Sunrisers Hyderabad  34
Pune Warriors        33
Gujarat Lions        17
Rising Pune Supergiants  9
Kochi Tuskers Kerala  8
Rising Pune Supergiant  6
Name: looser, dtype: int64

In [10]: wins

Out[10]:
Mumbai Indians      92
Chennai Super Kings  79
Kolkata Knight Riders  77
Royal Challengers Bangalore  73
Kings XI Punjab     78
Rajasthan Royals    63
Delhi Daredevils    62
Sunrisers Hyderabad  42
Deccan Chargers     29
Gujarat Lions       13
Pune Warriors       12
Rising Pune Supergiant  18
Kochi Tuskers Kerala  6
Rising Pune Supergiants  5
Name: winner, dtype: int64

In [11]: wins.iplot(kind='bar',xTitle='Team',yTitle='Count',title='Winning count')

Winning count

In [12]: losses.iplot(kind='bar',xTitle='Team',yTitle='Count',title='Looosing count')

Looosing count

In [13]: mom=df_matches['player_of_match'].value_counts()

In [14]: mom

Out[14]:
CH Gayle      18
YK Pathan    16
AB de Villiers  15
DA Warner     15
RG Sharma     14
KMDN Kulasekara  1
Z Khan        1
TM Dilshan    1
SM Katich     1
JD Ryder      1
Name: player_of_match, Length: 201, dtype: int64

In [15]: mom[:20].iplot(kind='bar',xTitle='Player',yTitle='Count',title='Top 20 MOM')

Top 20 MOM

In [16]: ## Matches hosted in each city

In [17]: city=df_matches['city'].value_counts()
city

Out[17]:
Mumbai      85
Bangalore   66
Kolkata     61
Delhi       60
Hyderabad   49
Chennai     48
Chandigarh  46
Jaipur      33
Pune        32
Durban      15
Centurion   12
Ahmedabad   12
Visakhapatnam  10
Rajkot      10
Dharamsala  9
Johannesburg  8
Port Elizabeth  7
Cape Town   7
Cuttack     7
Abu Dhabi  7
Ranchi      7
Raipur      6
Sharjah     6
Indore      5
Kochi       5
Karnpur     4
Kimberley   3
East London 3
Nagpur      3
Bloemfontein 2
Name: city, dtype: int64

In [18]: city[:20].iplot(kind='bar')

In [19]: stadium=df_matches['venue'].value_counts()
stadium

Out[19]:
M Chinnaswamy Stadium      66
Eden Gardens               61
Feroz Shah Kotla           60
Wankhede Stadium           57
Rajiv Gandhi International Stadium, Uppal  49
MA Chidambaram Stadium, Chepauk  48
Punjab Cricket Association Stadium, Mohali  35
Sawai Mansingh Stadium      33
Subrata Roy Sahara Stadium  17
Dr DY Patil Sports Academy  17
Maharashtra Cricket Association Stadium  15
Kingsmead                  15
SuperSport Park            12
Sardar Patel Stadium, Motera 12
Dr. Y.S. Rajasekhara Reddy ACA-VDCA Cricket Stadium 11
Punjab Cricket Association IS Bindra Stadium, Mohali 11
Brabourne Stadium          11
Saurashtra Cricket Association Stadium  10
Himachal Pradesh Cricket Association Stadium  9
New Wanderers Stadium       8
Sheikh Zayed Stadium        7
Dubai International Cricket Stadium  7
St George's Park            7
Barabati Stadium            7
JSCA International Stadium Complex  7
Newlands                    6
Shaheed Veer Narayan Singh International Stadium 6
Sharjah Cricket Stadium     6
Holkar Cricket Stadium      5
Mehru Stadium              5
Green Park                 3
Vidarbha Cricket Association Stadium, Jamtha 3
Buffalo Park               3
De Beers Diamond Oval      3
Outsurance Oval            2
Name: venue, dtype: int64

In [20]: stadium[:20].iplot(kind='bar')

In [21]: ##Particularly seeing the match up between MI and CSK

In [22]: def get_micksk(team1,team2):
teams=['Chennai Super Kings',"Mumbai Indians"]
if team1 in teams and team2 in teams:
return True
else:
return False

In [23]: matchups=[]
for row in df_matches.iterrows():
tempget_micksk(row[1]['team1'],row[1]['team2'])
matchups.append(temp)

In [24]: sum(matchups)

Out[24]:
22

In [25]: micksk=df_matches[matchups]
micksk.head()

Out[25]:
season  city  date  team1  team2  toss_winner  toss_decision  result  dl_applied  winner  win_by_runs  win_by_wickets  player_of_match  venue  umpire1  umpire2  umpire3
id
67  2008  Chennai  2008-04-23  Chennai Super Kings  Mumbai Indians  Mumbai Indians  field  normal  0  Chennai Super Kings  6  0  ML Hayden  MA Chidambaram Stadium, Chepauk  DJ Pratapkumar  GA Pratapkumar  NaN
96  2008  Mumbai  2008-05-14  Chennai Super Kings  Mumbai Indians  Mumbai Indians  field  normal  0  Mumbai Indians  0  9  ST Jayasuriya  Wankhede Stadium  BR Doore  AM Saheba  NaN
118  2009  Cape Town  2009-04-18  Mumbai Indians  Chennai Super Kings  Chennai Super Kings  field  normal  0  Mumbai Indians  19  0  SR Tendulkar  Newlands  K Hariharan  NaN
162  2009  Port Elizabeth  2009-05-16  Mumbai Indians  Chennai Super Kings  Chennai Super Kings  bat  normal  0  Chennai Super Kings  0  7  ML Hayden  St George's Park  SK Tautel  SJA Tautel  NaN
194  2010  Mumbai  2010-03-25  Chennai Super Kings  Mumbai Indians  Mumbai Indians  bat  normal  0  Mumbai Indians  0  5  SR Tendulkar  Brabourne Stadium  BR Bowden  AM Saheba  NaN

In [26]: micksk['winner'].value_counts().iplot(kind='bar')

In [27]: micksk['player_of_match'].value_counts().iplot(kind='bar')

In [ ]:
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