# Project Work

## Informatics Practices Class XII
## Project (2020–21)

**Front-end: Pandas**

**Back-end: csv**

**Plots: matplotlib**

**#Project on Cricket 20-20 Analysis**

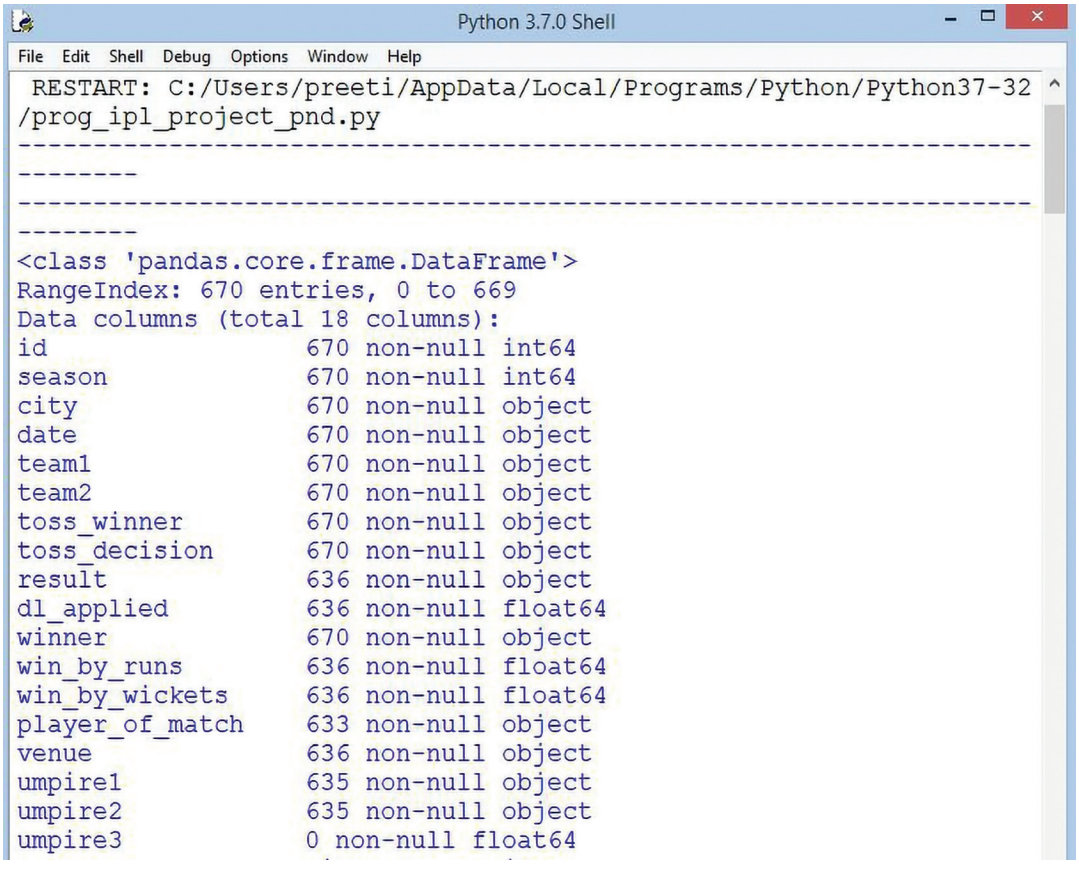
```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt #visualization
plt.rcParams['figure.figsize'] = (14, 8)

df = pd.read_csv("E:\\t20.csv")
print('------------------------------------------------------------')
print('------------------------------------------------------------')
print(df.info())
print()
print('------------------------------------------------------------')
print('------------------------------------------------------------')
print('Total Matches are::::',df['id'].max())
print()
print('------------------------------------------------------------')
print('------------------------------------------------------------')
print('How many seasons data we've got in the dataset?')
print(df['season'].unique())
print()
```

```
print('------------------------------------------------------------')
print('------------------------------------------------------------')
print('Which Team had won by maximum runs?')
print(df.iloc[df['win_by_runs'].idxmax()])
print()
print('------------------------------------------------------------')
print('------------------------------------------------------------')
print('Which Team had won by maximum wickets?')
print(df.iloc[df['win_by_wickets'].idxmax()]['winner'])
print()
print('------------------------------------------------------------')
print('------------------------------------------------------------')
print('Which Team had won by (closest margin) minimum runs?')
print(df.iloc[df[df['win_by_runs'].ge(1)].win_by_runs.idxmin()]
['winner'])
print()
print('------------------------------------------------------------')
print('------------------------------------------------------------')
print('Which Team had won by minimum wickets?')
print(df.iloc[df[df['win_by_wickets'].ge(1)].win_by_wickets.idxmin()])

print()
print('------------------------------------------------------------')
print('------------------------------------------------------------')
print('Which season had most number of matches?')
plt.bar(x='season',data=df,height=df['season'])
plt.show()
print()
print('------------------------------------------------------------')
print('------------------------------------------------------------')
print('The Most Successful IPL Team is:::')
data = df.winner.value_counts()
print(data)
print()
print('------------------------------------------------------------')
print('------------------------------------------------------------')
print('The Players who got maximum times Man of the Match are:::')
top_players = df.player_of_match.value_counts()[:10]
```

```
print(top_players)
print("Data Frame Analysis")
menu=''' 1. Top record of the Players
\n 2. Bottom Records of the Players
\n 3. To print particular column
\n 4. To print multiple columns
\n 5. To display complete statistics of the Matches
\n Press enter to go back '''
print(menu)
ch=int(input("Enter your choice"))
if ch==1:
  n=int(input("Enter the number of records to be displayed"))
  print("Top ", n," records from the dataframe")
  print(df.head(n))
elif ch==2:
  n=int(input("Enter the number of records to be displayed"))
  print("Bottom ", n," records from the dataframe")
  print(df.tail(n))
elif ch==3:
  print("Name of the columns\n",df.columns)
  columns\n",df.columns)
  co=input("Enter the column name to be displayed")
  print(df[[co]])
elif ch==4:
  print("Name of the columns\n",df.columns)
  co=eval(input("Enter the column names as list in square bracket"))
  print(df[co])
elif ch==5:
  print("The statistics of the dataframe is:", df.describe(include='all'))
```

## OUTPUT SCREENSHOTS

```
--------------------------------------------------------------------------------
--------
Which Team had won by maximum runs?
id                                44
season                          2017
city                           Delhi
date                      05-06-2017
team1                Mumbai Indians
team2             Delhi Daredevils
toss_winner       Delhi Daredevils
toss_decision                field
result                      normal
dl_applied                       0
winner               Mumbai Indians
win_by_runs                    146
win_by_wickets                   0
player_of_match          LMP Simmons
venue             Feroz Shah Kotla
umpire1                Nitin Menon
umpire2                  CK Nandan
umpire3                        NaN
Name: 43, dtype: object

--------------------------------------------------------------------------------
```



```
--------------------------------------------------------------------------------
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Total Matches are:::: 670

--------------------------------------------------------------------------------
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How many seasons data we've got in the dataset?
[2017 2008 2009 2010 2011 2012 2013 2014 2015 2016 2018]

--------------------------------------------------------------------------------
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--------------------------------------------------------------------------------
```

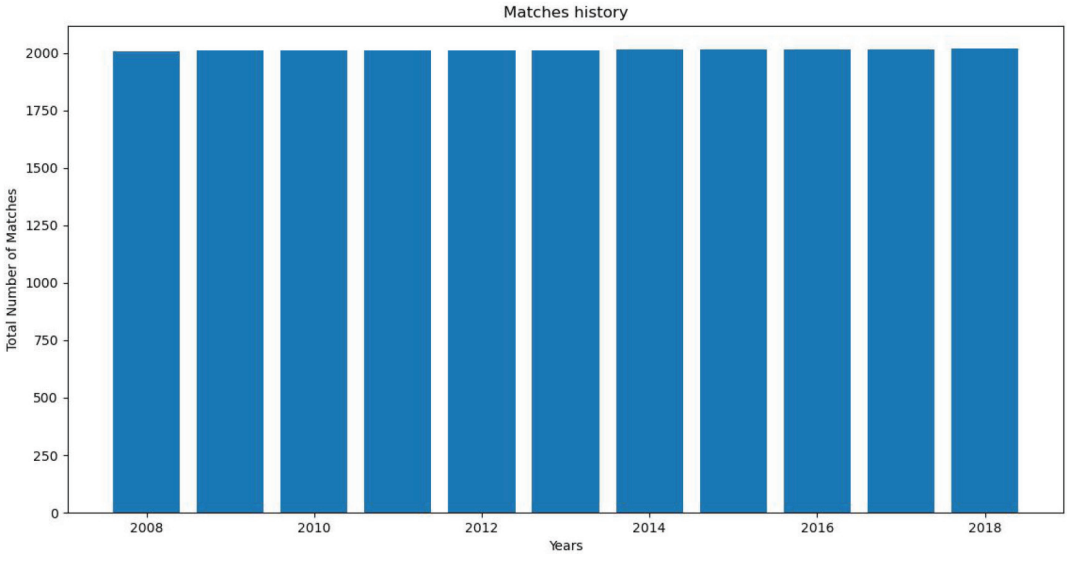


```
The Most Successful IPL Team is:::
Mumbai Indians                  95
Chennai Super Kings             85
Kolkata Knight Riders           82
Royal Challengers Bangalore     76
Kings XI Punjab                 75
Rajasthan Royals                67
Delhi Daredevils                65
Sunrisers Hyderabad             47
Deccan Chargers                 29
Gujarat Lions                   13
Pune Warriors                   12
Rising Pune Supergiant          10
Kochi Tuskers Kerala             6
Rising Pune Supergiants          5
no result                        3
Name: winner, dtype: int64

--------------------------------------------------------------------------------
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--------------------------------------------------------------------------------
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The Players who got maximum times Man of the Match are:::
CH Gayle          18
YK Pathan         16
DA Warner         15
AB de Villiers    15
SK Raina          14
```

```
646  Bangalore
647     Mohali
648    Kolkata
649     Mumbai
650     Jaipur
651     Mohali
652       Pune
653    Kolkata
654  Bangalore
655  Hyderabad
656     Jaipur
657      Delhi
658     Mumbai
659  Bangalore
660  Hyderabad
661      Delhi
662       Pune
663     Jaipur
664  Bangalore
665       Pune
666  Bangalore
667      Delhi
668    Kolkata
669     Indore

[670 rows x 1 columns]
>>>
```

Ln: 221 Col: 4

```
Data Frame Analysis
 1. Top record of the Players

 2. Bottom Records of the Players

 3. To print particular column

 4. To print multiple columns

 5. To display complete statistics of the Matches

 Press enter to go back
Enter your choice3
Name of the columns
 Index(['id', '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'],
      dtype='object')
Enter the column name to be displayedcity
          city
0    Hyderabad
1         Pune
2       Rajkot
3       Indore
4    Bangalore
```