practical1

March 10, 2024

```python
import pandas as pd
```

```python
df=pd.read_csv("/Book_ipl22_ver_33.csv")
```

```python
df.head()
```

```
[ ]:    match_id          date                                            venue  \
     0         1  March 26,2022                      Wankhede Stadium, Mumbai
     1         2  March 27,2022                     Brabourne Stadium, Mumbai
     2         3  March 27,2022          Dr DY Patil Sports Academy, Mumbai
     3         4  March 28,2022                      Wankhede Stadium, Mumbai
     4         5  March 29,2022  Maharashtra Cricket Association Stadium,Pune

            team1      team2  stage toss_winner toss_decision  first_ings_score  \
     0    Chennai    Kolkata  Group     Kolkata         Field               131
     1      Delhi     Mumbai  Group       Delhi         Field               177
     2   Banglore     Punjab  Group      Punjab         Field               205
     3    Gujarat    Lucknow  Group     Gujarat         Field               158
     4  Hyderabad  Rajasthan  Group   Hyderabad         Field               210

        first_ings_wkts  second_ings_score  second_ings_wkts match_winner   won_by  \
     0                5                133                 4      Kolkata  Wickets
     1                5                179                 6        Delhi  Wickets
     2                2                208                 5       Punjab  Wickets
     3                6                161                 5      Gujarat  Wickets
     4                6                149                 7    Rajasthan     Runs

        margin player_of_the_match        top_scorer  highscore        best_bowling  \
     0       6         Umesh Yadav          MS Dhoni         50       Dwayne Bravo
     1       4       Kuldeep Yadav      Ishan Kishan         81      Kuldeep Yadav
     2       5         Odean Smith   Faf du Plessis         88     Mohammed Siraj
     3       5      Mohammed Shami     Deepak Hooda         55     Mohammed Shami
     4      61        Sanju Samson     Aiden Markram         57   Yuzvendra Chahal

       best_bowling_figure
     0               3--20
     1               3--18
```

```
      2                    2--59
      3                    3--25
      4                    3--22
```

[ ]: `df.isnull().sum()`

[ ]:
```
match_id               0
date                   0
venue                  0
team1                  0
team2                  0
stage                  0
toss_winner            0
toss_decision          0
first_ings_score       0
first_ings_wkts        0
second_ings_score      0
second_ings_wkts       0
match_winner           0
won_by                 0
margin                 0
player_of_the_match    0
top_scorer             0
highscore              0
best_bowling           0
best_bowling_figure    0
dtype: int64
```

[ ]: `df.shape`

[ ]: `(74, 20)`

[ ]: `df.describe()`

[ ]:
```
          match_id  first_ings_score  first_ings_wkts  second_ings_score  \
count    74.000000         74.000000        74.000000          74.000000
mean     37.500000        171.121622         6.135135         158.540541
std      21.505813         29.048355         2.222699          29.299207
min       1.000000         68.000000         0.000000          72.000000
25%      19.250000        154.250000         5.000000         142.750000
50%      37.500000        169.500000         6.000000         160.000000
75%      55.750000        192.750000         8.000000         176.000000
max      74.000000        222.000000        10.000000         211.000000

         second_ings_wkts     margin   highscore
count           74.000000  74.000000   74.000000
mean             6.175676  16.972973   71.716216
```

```
std             2.639832    19.651047    20.705052
min             1.000000     2.000000    28.000000
25%             4.000000     5.250000    57.000000
50%             6.000000     8.000000    68.000000
75%             8.000000    18.000000    87.750000
max            10.000000    91.000000   140.000000
```

```
[ ]: df.dtypes
```

```
[ ]: match_id              int64
     date                 object
     venue                object
     team1                object
     team2                object
     stage                object
     toss_winner          object
     toss_decision        object
     first_ings_score      int64
     first_ings_wkts       int64
     second_ings_score     int64
     second_ings_wkts      int64
     match_winner         object
     won_by               object
     margin                int64
     player_of_the_match  object
     top_scorer           object
     highscore             int64
     best_bowling         object
     best_bowling_figure  object
     dtype: object
```

```
[ ]: df
```

```
[ ]:     match_id           date                                          venue  \
     0          1  March 26,2022                      Wankhede Stadium, Mumbai
     1          2  March 27,2022                     Brabourne Stadium, Mumbai
     2          3  March 27,2022           Dr DY Patil Sports Academy, Mumbai
     3          4  March 28,2022                      Wankhede Stadium, Mumbai
     4          5  March 29,2022  Maharashtra Cricket Association Stadium,Pune
     ..       ...            ...                                           ...
     69        70    May 22,2022                      Wankhede Stadium, Mumbai
     70        71    May 24,2022                       Eden Gardens, Kolkata
     71        72    May 25,2022                       Eden Gardens, Kolkata
     72        73    May 27,2022            Narendra Modi Stadium, Ahmedabad
     73        74    May 29,2022            Narendra Modi Stadium, Ahmedabad

            team1      team2    stage toss_winner toss_decision  first_ings_score  \
```

0	Chennai	Kolkata	Group	Kolkata	Field	131
1	Delhi	Mumbai	Group	Delhi	Field	177
2	Banglore	Punjab	Group	Punjab	Field	205
3	Gujarat	Lucknow	Group	Gujarat	Field	158
4	Hyderabad	Rajasthan	Group	Hyderabad	Field	210
..	…	…	…	…	…	…
69	Hyderabad	Punjab	Group	Hyderabad	Bat	157
70	Gujarat	Rajasthan	Playoff	Gujarat	Field	188
71	Banglore	Lucknow	Playoff	Lucknow	Field	207
72	Banglore	Rajasthan	Playoff	Rajasthan	Field	157
73	Gujarat	Rajasthan	Final	Rajasthan	Bat	130

	first_ings_wkts	second_ings_score	second_ings_wkts	match_winner \
0	5	133	4	Kolkata
1	5	179	6	Delhi
2	2	208	5	Punjab
3	6	161	5	Gujarat
4	6	149	7	Rajasthan
..	…	…	…	…
69	8	160	5	Punjab
70	6	191	3	Gujarat
71	4	193	6	Banglore
72	8	161	3	Rajasthan
73	9	133	3	Gujarat

	won_by	margin	player_of_the_match	top_scorer	highscore \
0	Wickets	6	Umesh Yadav	MS Dhoni	50
1	Wickets	4	Kuldeep Yadav	Ishan Kishan	81
2	Wickets	5	Odean Smith	Faf du Plessis	88
3	Wickets	5	Mohammed Shami	Deepak Hooda	55
4	Runs	61	Sanju Samson	Aiden Markram	57
..	…	…	…	…	…
69	Wickets	5	Harpreet Brar	Liam Livingstone	49
70	Wickets	7	David Miller	Jos Buttler	89
71	Runs	14	Rajat Patidar	Rajat Patidar	112
72	Wickets	7	Jos Buttler	Jos Buttler	106
73	Wickets	7	Hardik Pandya	Shubman Gill	45

	best_bowling	best_bowling_figure
0	Dwayne Bravo	3--20
1	Kuldeep Yadav	3--18
2	Mohammed Siraj	2--59
3	Mohammed Shami	3--25
4	Yuzvendra Chahal	3--22
..	…	…
69	Harpreet Brar	3--26
70	Hardik Pandya	1--14

```
71      Josh Hazlewood              3--43
72    Prasidh Krishna               3--22
73     Hardik Pandya                3--17

[74 rows x 20 columns]
```

[ ]: `dummy_column=pd.get_dummies(df.toss_decision)`

[ ]: `dummy_column`

[ ]:
```
    Bat  Field
0    0     1
1    0     1
2    0     1
3    0     1
4    0     1
..   …     …
69   1     0
70   0     1
71   0     1
72   0     1
73   1     0

[74 rows x 2 columns]
```

[ ]: `new_df=df.join(dummy_column).drop(['toss_decision'],axis=1)`

[ ]: `new_df`

[ ]:
```
    match_id         date                                              venue  \
0          1  March 26,2022                        Wankhede Stadium, Mumbai
1          2  March 27,2022                       Brabourne Stadium, Mumbai
2          3  March 27,2022             Dr DY Patil Sports Academy, Mumbai
3          4  March 28,2022                        Wankhede Stadium, Mumbai
4          5  March 29,2022  Maharashtra Cricket Association Stadium,Pune
..       …          …                                                 …
69        70    May 22,2022                        Wankhede Stadium, Mumbai
70        71    May 24,2022                         Eden Gardens, Kolkata
71        72    May 25,2022                         Eden Gardens, Kolkata
72        73    May 27,2022           Narendra Modi Stadium, Ahmedabad
73        74    May 29,2022           Narendra Modi Stadium, Ahmedabad

         team1      team2   stage toss_winner  first_ings_score  \
0      Chennai    Kolkata   Group     Kolkata               131
1        Delhi     Mumbai   Group       Delhi               177
2     Banglore     Punjab   Group      Punjab               205
3      Gujarat    Lucknow   Group     Gujarat               158
```

```
4    Hyderabad   Rajasthan    Group    Hyderabad              210
..       …           …          …          …             …
69   Hyderabad    Punjab      Group    Hyderabad              157
70    Gujarat    Rajasthan   Playoff    Gujarat               188
71   Banglore    Lucknow     Playoff    Lucknow               207
72   Banglore    Rajasthan   Playoff   Rajasthan              157
73    Gujarat    Rajasthan    Final    Rajasthan              130


     first_ings_wkts   second_ings_score  …  match_winner    won_by  margin  \
0                  5                 133  …       Kolkata    Wickets      6
1                  5                 179  …         Delhi    Wickets      4
2                  2                 208  …        Punjab    Wickets      5
3                  6                 161  …       Gujarat    Wickets      5
4                  6                 149  …     Rajasthan       Runs     61
..               …                    …  …           …          …        …
69                 8                 160  …        Punjab    Wickets      5
70                 6                 191  …       Gujarat    Wickets      7
71                 4                 193  …      Banglore       Runs     14
72                 8                 161  …     Rajasthan    Wickets      7
73                 9                 133  …       Gujarat    Wickets      7


     player_of_the_match        top_scorer  highscore      best_bowling  \
0            Umesh Yadav          MS Dhoni         50      Dwayne Bravo
1          Kuldeep Yadav      Ishan Kishan         81      Kuldeep Yadav
2            Odean Smith    Faf du Plessis         88     Mohammed Siraj
3         Mohammed Shami      Deepak Hooda         55     Mohammed Shami
4           Sanju Samson     Aiden Markram         57   Yuzvendra Chahal
..                    …                 …          …                  …
69         Harpreet Brar  Liam Livingstone         49      Harpreet Brar
70          David Miller        Jos Buttler         89      Hardik Pandya
71         Rajat Patidar     Rajat Patidar        112    Josh Hazlewood
72           Jos Buttler        Jos Buttler       106   Prasidh Krishna
73         Hardik Pandya      Shubman Gill         45      Hardik Pandya


     best_bowling_figure  Bat   Field
0                  3--20    0       1
1                  3--18    0       1
2                  2--59    0       1
3                  3--25    0       1
4                  3--22    0       1
..                     …   ..       …
69                 3--26    1       0
70                 1--14    0       1
71                 3--43    0       1
72                 3--22    0       1
73                 3--17    1       0
```

```
[74 rows x 21 columns]
```

[ ]: