EDS Activity No 1

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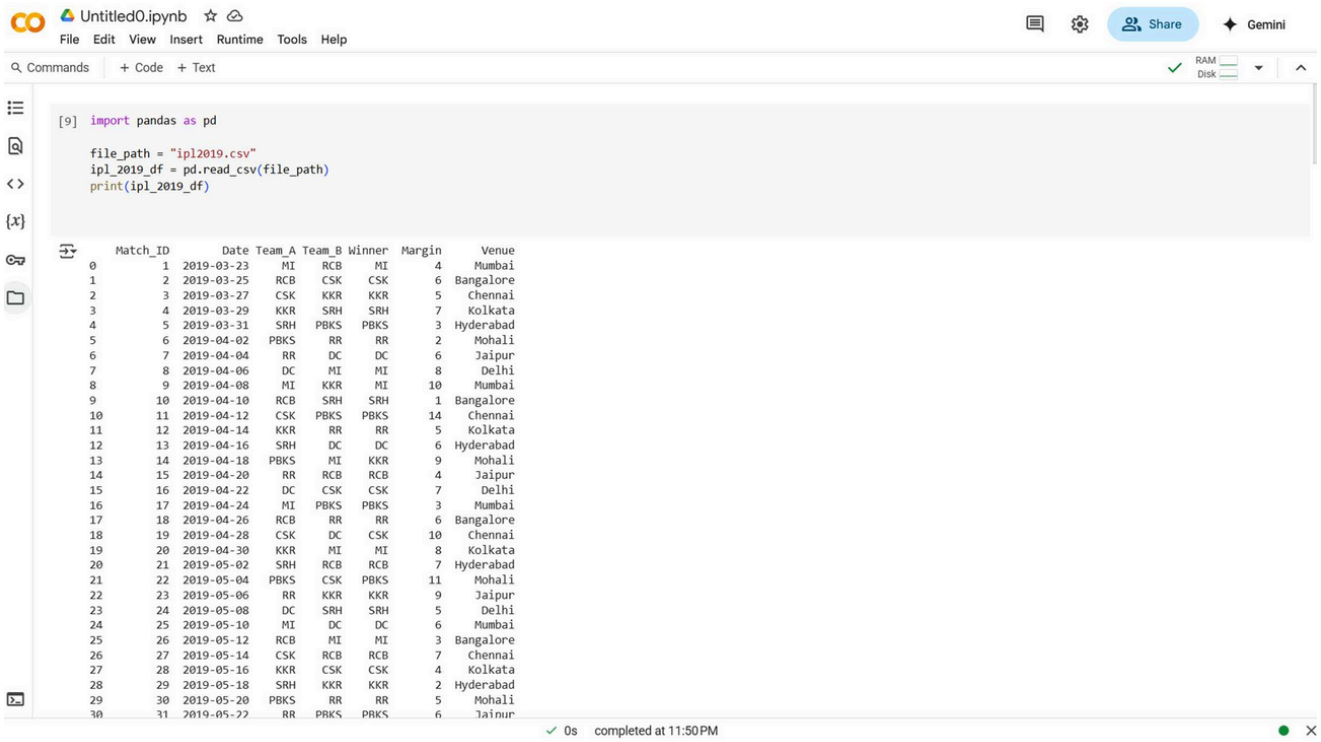
Dataset- IPL

- **Dataset - IPL**



- **20 Problem statement based on IPL dataset**

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```
[11] # Problem 2: Find the total number of matches won by "MI"
     mi_wins = len(ipl_df[ipl_df['Winner'] == "MI"])
     print("2. Total matches won by MI:", mi_wins, "\n")
```

```
2. Total matches won by MI: 6
```

```
[12] # Problem 3: Identify the team with the maximum wins
     max_wins_team = ipl_df['Winner'].value_counts().idxmax()
     print("3. Team with maximum wins:", max_wins_team, "\n")
```

```
3. Team with maximum wins: KKR
```

```
# Problem 4: Calculate the average winning margin for all matches
avg_margin = ipl_df['Margin'].mean()
print("4. Average winning margin:", avg_margin, "\n")
```

```
4. Average winning margin: 51.92
```

```
[30] # Problem 5: Find top 5 matches where the winning margin was greater than 10 runs/wickets
     large_margin_matches = ipl_df[ipl_df['Margin'] > 10]
     print("5. Matches with winning margin > 10:\n", large_margin_matches.head(), "\n")
```

```
5. Matches with winning margin > 10:
    Match_ID Team_A Team_B Winner  Margin Top_Scorer Man_of_the_Match  \
0         1    SRH    CSK     DC      58    Player1          Player4
1         2    KKR    CSK    CSK      51    Player1          Player4
2         3     DC     MI     DC      38    Player2          Player4
5         6     RR    SRH    RCB      46    Player5          Player5
6         7    CSK    RCB     DC      89    Player1          Player5

      Venue
0   Chennai
1   Chennai
2 Bangalore
5   Chennai
```

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```
6    Kolkata
```

```
# Problem 6: How many matches did "RCB" play?
rcb_matches = len(ipl_df[(ipl_df['Team_A'] == "RCB") | (ipl_df['Team_B'] == "RCB")])
print("6. Total matches played by RCB:", rcb_matches, "\n")
```

```
6. Total matches played by RCB: 11
```

```
[16] # Problem 7: List all matches where "CSK" played against "MI"
     csk_vs_mi_matches = ipl_df[
         ((ipl_df['Team_A'] == "CSK") & (ipl_df['Team_B'] == "MI")) |
         ((ipl_df['Team_A'] == "MI") & (ipl_df['Team_B'] == "CSK"))
     ]
     print("7. Matches where CSK played against MI:\n", csk_vs_mi_matches, "\n")
```

```
7. Matches where CSK played against MI:
    Match_ID Team_A Team_B Winner  Margin Top_Scorer Man_of_the_Match   Venue
7         8     MI    CSK    KKR      67    Player3          Player3  Mumbai
```

```
# Problem 8: Find the venue where "KKR" won most matches
kkr_venues = ipl_df[ipl_df['Winner'] == "KKR"]['Venue'].value_counts()
most_common_venue = kkr_venues.idxmax()
print("8. Venue where KKR won most matches:", most_common_venue, "\n")
```

```
8. Venue where KKR won most matches: Chennai
```

```
[18] # Problem 9: How many matches ended with a margin of 6 runs/wickets?
     six_margin_matches = len(ipl_df[ipl_df['Margin'] == 6])
     print("9. Matches with margin = 6:", six_margin_matches, "\n")
```

```
9. Matches with margin = 6: 1
```

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```
[19] # Problem 10: Determine the winning percentage of "SRH"
     srh_matches = len(ipl_df[(ipl_df['Team_A'] == "SRH") | (ipl_df['Team_B'] == "SRH")])
     srh_wins = len(ipl_df[ipl_df['Winner'] == "SRH"])
     win_percentage = (srh_wins / srh_matches) * 100 if srh_matches > 0 else 0
     print("10. Winning percentage of SRH:", win_percentage, "%\n")
```

```
10. Winning percentage of SRH: 21.428571428571427 %
```

```
[20] # Problem 11: Matches where the venue was "Delhi" and the margin was < 5
     close_delhi_matches = ipl_df[(ipl_df['Venue'] == "Delhi") & (ipl_df['Margin'] < 5)]
     print("11. Close matches at Delhi:\n", close_delhi_matches, "\n")
```

```
11. Close matches at Delhi:
 Empty DataFrame
Columns: [Match_ID, Team_A, Team_B, Winner, Margin, Top_Scorer, Man_of_the_Match, Venue]
Index: []
```

```
[21] # Problem 12: Match with the highest winning margin
     max_margin_match = ipl_df[ipl_df['Margin'] == ipl_df['Margin'].max()]
     print("12. Match with highest margin:\n", max_margin_match, "\n")
```

```
12. Match with highest margin:
     Match_ID Team_A Team_B Winner  Margin Top_Scorer Man_of_the_Match  Venue
11         12    CSK   PBKS     MI      96    Player1          Player2  Delhi
```

```
[22] # Problem 13: Count of matches played in each venue
     matches_per_venue = ipl_df['Venue'].value_counts()
     print("13. Matches per venue:\n", matches_per_venue, "\n")
```

```
13. Matches per venue:
 Venue
Mumbai       13
Chennai      12
```

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```
Kolkata      10
Delhi         8
Bangalore     7
Name: count, dtype: int64
```

```
[23] # Problem 14: Identify the team that played the most matches
     team_counts = pd.concat([ipl_df['Team_A'], ipl_df['Team_B']]).value_counts()
     most_matches_team = team_counts.idxmax()
     print("14. Team that played the most matches:", most_matches_team, "\n")
```

```
14. Team that played the most matches: MI
```

```
[24] # Problem 15: Matches where "PBKS" lost
     pbks_lost_matches = ipl_df[(ipl_df['Winner'] != "PBKS") &
                                ((ipl_df['Team_A'] == "PBKS") | (ipl_df['Team_B'] == "PBKS"))]
     print("15. Matches where PBKS lost:\n", pbks_lost_matches, "\n")
```

```
15. Matches where PBKS lost:
     Match_ID Team_A Team_B Winner  Margin Top_Scorer Man_of_the_Match    Venue
11         12    CSK   PBKS     MI      96    Player1          Player2    Delhi
16         17    SRH   PBKS    SRH      54    Player2          Player1  Kolkata
19         20    SRH   PBKS     MI      81    Player1          Player1   Mumbai
21         22     RR   PBKS    KKR      18    Player2          Player5    Delhi
34         35   PBKS     MI    KKR      64    Player3          Player3  Kolkata
```

```
[25] # Problem 16: Average number of matches per venue
     avg_matches_per_venue = matches_per_venue.mean()
     print("16. Average matches per venue:", avg_matches_per_venue, "\n")
```

```
16. Average matches per venue: 10.0
```

```
[26] # Problem 17: First match where "RR" won
     rr_first_win = ipl_df[ipl_df['Winner'] == "RR"].iloc[0]
     print("17. First match where RR won:\n", rr_first_win, "\n")
```

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```
17. First match where RR won:
 Match_ID                  13
Team_A                     MI
Team_B                     MI
Winner                     RR
Margin                     40
Top_Scorer            Player1
Man_of_the_Match      Player2
Venue                Bangalore
Name: 12, dtype: object
```

```
[27] # Problem 18: Count of matches won by each team
matches_won_by_team = ipl_df['Winner'].value_counts()
print("18. Matches won by each team:\n", matches_won_by_team, "\n")
```

```
18. Matches won by each team:
 Winner
KKR     9
RR      8
PBKS    7
CSK     7
MI      6
DC      6
RCB     4
SRH     3
Name: count, dtype: int64
```

```
[28] # Problem 19: Number of matches "KKR" played at "Kolkata"
kkr_kolkata_matches = ipl_df[((ipl_df['Team_A'] == "KKR") | (ipl_df['Team_B'] == "KKR")) &
                             (ipl_df['Venue'] == "Kolkata")]
print("19. Matches KKR played in Kolkata:", len(kkr_kolkata_matches), "\n")
```

```
19. Matches KKR played in Kolkata: 1
```

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```
RR      8
PBKS    7
CSK     7
MI      6
DC      6
RCB     4
SRH     3
Name: count, dtype: int64
```

```
[28] # Problem 19: Number of matches "KKR" played at "Kolkata"
kkr_kolkata_matches = ipl_df[((ipl_df['Team_A'] == "KKR") | (ipl_df['Team_B'] == "KKR")) &
                             (ipl_df['Venue'] == "Kolkata")]
print("19. Matches KKR played in Kolkata:", len(kkr_kolkata_matches), "\n")
```

```
19. Matches KKR played in Kolkata: 1
```

```
[29] # Problem 20: Team with the lowest winning margin overall
min_margin_team = ipl_df[ipl_df['Margin'] == ipl_df['Margin'].min()]['Winner'].iloc[0]
print("20. Team with lowest winning margin:", min_margin_team, "\n")
```

```
20. Team with lowest winning margin: MI
```

```
[ ] Start coding or generate with AI.
```