Project Name: IPL Data Visualization

Develop By: Rudra Rathod

Dataset Year: 2008-2025

```python
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
from collections import Counter
import numpy as np
import warnings
warnings.filterwarnings('ignore')
sns.set(style="whitegrid")
plt.rcParams["figure.figsize"] = (10,6)
df = pd.read_csv('IPL.csv')
print(df.head())
print(f"Dataset shape: {df.shape}")
```

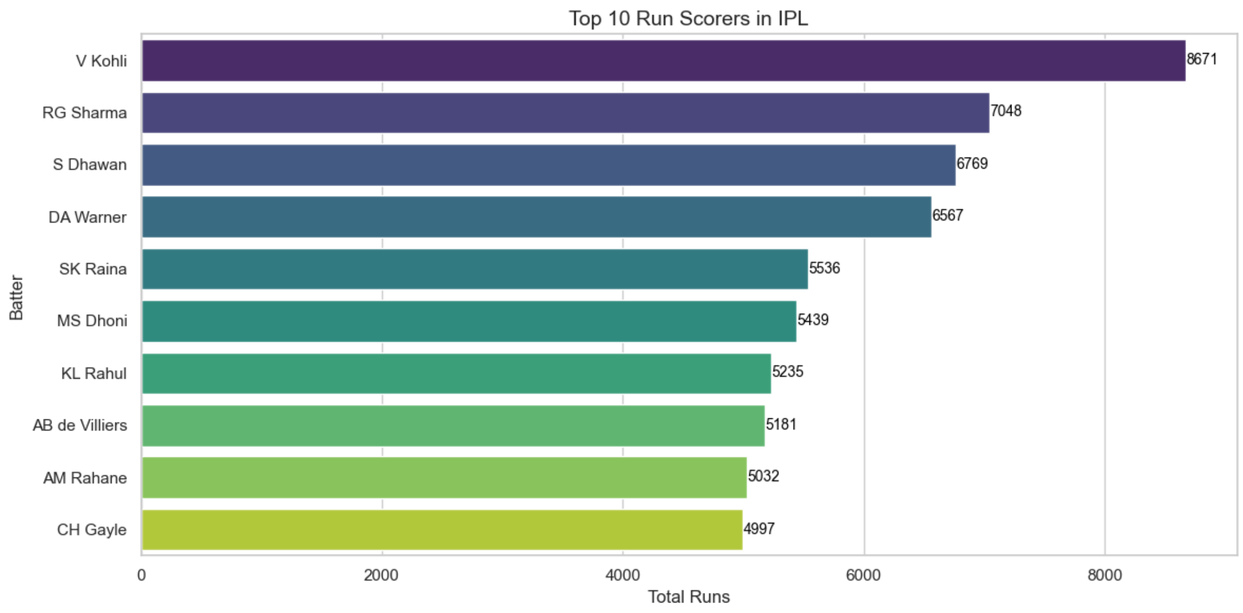
```
   Unnamed: 0  match_id        date match_type             event_name  
\
0      131970    335982  2008-04-18        T20  Indian Premier League

1      131971    335982  2008-04-18        T20  Indian Premier League

2      131972    335982  2008-04-18        T20  Indian Premier League

3      131973    335982  2008-04-18        T20  Indian Premier League

4      131974    335982  2008-04-18        T20  Indian Premier League


   innings           batting_team                 bowling_team  over  
ball  \
0        1  Kolkata Knight Riders  Royal Challengers Bangalore     0
1
1        1  Kolkata Knight Riders  Royal Challengers Bangalore     0
2
2        1  Kolkata Knight Riders  Royal Challengers Bangalore     0
3
3        1  Kolkata Knight Riders  Royal Challengers Bangalore     0
3
4        1  Kolkata Knight Riders  Royal Challengers Bangalore     0
4

   ...  team_runs team_balls  team_wicket  new_batter  batter_runs  \
0  ...         1          1            0         NaN             0
1  ...         1          2            0         NaN             0
2  ...         2          2            0         NaN             0
3  ...         2          3            0         NaN             0
4  ...         2          4            0         NaN             0

  batter_balls  bowler_wicket               batting_partners
next_batter  \
0            1              0  ('BB McCullum', 'SC Ganguly')
NaN
1            1              0  ('BB McCullum', 'SC Ganguly')
NaN
2            1              0  ('BB McCullum', 'SC Ganguly')
NaN
3            2              0  ('BB McCullum', 'SC Ganguly')
NaN
4            3              0  ('BB McCullum', 'SC Ganguly')
NaN

   striker_out
0        False
1        False
2        False
3        False
4        False

[5 rows x 64 columns]
Dataset shape: (278205, 64)
```

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 278205 entries, 0 to 278204
Data columns (total 64 columns):
 #   Column              Non-Null Count   Dtype
---  ------              --------------   -----
 0   Unnamed: 0          278205 non-null  int64
 1   match_id            278205 non-null  int64
 2   date                278205 non-null  object
 3   match_type          278205 non-null  object
 4   event_name          278205 non-null  object
 5   innings             278205 non-null  int64
 6   batting_team        278205 non-null  object
 7   bowling_team        278205 non-null  object
 8   over                278205 non-null  int64
 9   ball                278205 non-null  int64
 10  ball_no             278205 non-null  float64
 11  batter              278205 non-null  object
 12  bat_pos             278205 non-null  int64
 13  runs_batter         278205 non-null  int64
 14  balls_faced        278205 non-null  int64  
 15  bowler             278205 non-null  object 
 16  valid_ball         278205 non-null  int64  
 17  runs_extras        278205 non-null  int64  
 18  runs_total         278205 non-null  int64  
 19  runs_bowler        278205 non-null  int64  
 20  runs_not_boundary  278205 non-null  bool   
 21  extra_type         15133 non-null   object 
 22  non_striker        278205 non-null  object 
 23  non_striker_pos    278205 non-null  int64  
 24  wicket_kind        13823 non-null   object 
 25  player_out         13823 non-null   object 
 26  fielders           10013 non-null   object 
 27  runs_target        133903 non-null  float64
 28  review_batter      872 non-null     object 
 29  team_reviewed      872 non-null     object 
 30  review_decision    872 non-null     object 
 31  umpire             872 non-null     object 
 32  umpires_call       278205 non-null  bool   
 33  player_of_match    278205 non-null  object 
 34  match_won_by       278205 non-null  object 
 35  win_outcome        273503 non-null  object 
 36  toss_winner        278205 non-null  object 
 37  toss_decision      278205 non-null  object 
 38  venue              278205 non-null  object 
 39  city               278205 non-null  object 
 40  day                278205 non-null  int64  
 41  month              278205 non-null  int64  
 42  year               278205 non-null  int64  
 43  season             278205 non-null  object 
 44  gender             278205 non-null  object 
 45  team_type          278205 non-null  object 
 46  superover_winner   3896 non-null    object 
 47  result_type        4702 non-null    object 
 48  method             3890 non-null    object 
 49  balls_per_over     278205 non-null  int64  
 50  overs              278205 non-null  int64  
 51  event_match_no     278205 non-null  object 
 52  stage              278205 non-null  object 
 53  match_number       278205 non-null  object 
 54  team_runs          278205 non-null  int64  
 55  team_balls         278205 non-null  int64  
 56  team_wicket        278205 non-null  int64  
 57  new_batter         13321 non-null   object 
 58  batter_runs        278205 non-null  int64  
 59  batter_balls       278205 non-null  int64  
 60  bowler_wicket      278205 non-null  int64  
 61  batting_partners   278205 non-null  object 
 62  next_batter        13321 non-null   object 
 63  striker_out        278205 non-null  bool
dtypes: bool(3), float64(2), int64(24), object(35)
memory usage: 130.3+ MB
```

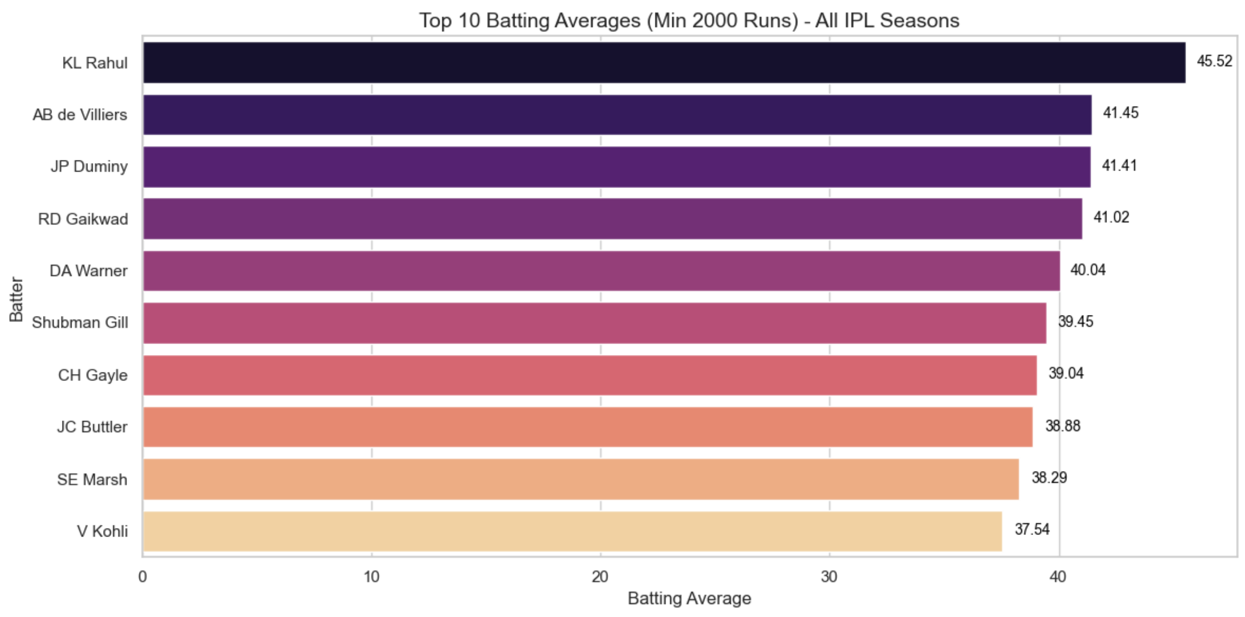
Top 10 Run Scorers - IPL

```
sns.set(style="whitegrid")
top_batters = df.groupby('batter')['runs_batter'].sum().reset_index()
top_batters = top_batters.sort_values(by='runs_batter',
ascending=False).head(10)
plt.figure(figsize=(12, 6))
ax = sns.barplot(data=top_batters, x='runs_batter', y='batter',
palette='viridis')
for bar in ax.patches:
    plt.text(bar.get_width() + 5,
             bar.get_y() + bar.get_height() / 2,
             int(bar.get_width()),
             fontsize=10, color='black', va='center')
plt.title('Top 10 Run Scorers in IPL', fontsize=14)
plt.xlabel('Total Runs')
plt.ylabel('Batter')
plt.tight_layout()
plt.show()
```



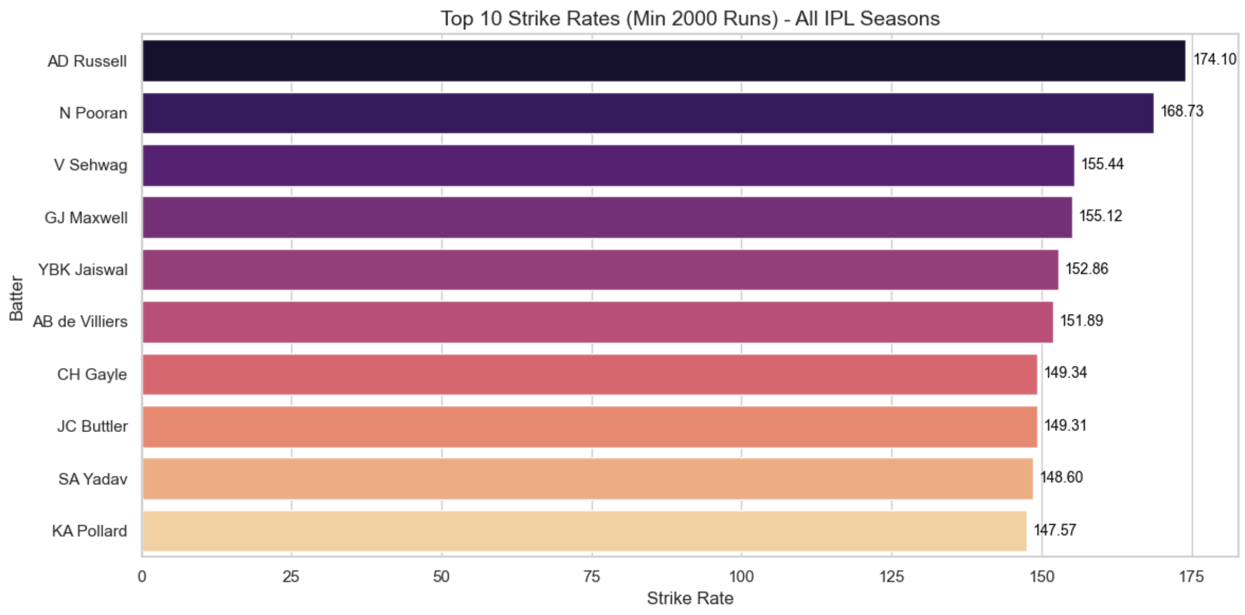
Top 10 Batting Averages (Min 2000 Runs Scored) - IPL

```
batting_stats = df.groupby('batter').agg({
    'runs_batter': 'sum',
    'balls_faced': 'sum',
    'player_out': lambda x: x.notnull().sum()  # count dismissals
}).reset_index()
batting_stats.rename(columns={
    'runs_batter': 'total_runs',
    'balls_faced': 'total_balls',
    'player_out': 'dismissals'
}, inplace=True)
batting_stats = batting_stats[batting_stats['total_runs'] >= 2000]
batting_stats['dismissals'] = batting_stats['dismissals'].replace(0,
1)
batting_stats['batting_average'] = batting_stats['total_runs'] /
batting_stats['dismissals']
top_avg = batting_stats.sort_values(by='batting_average',
ascending=False).head(10)
plt.figure(figsize=(12, 6))
sns.set(style="whitegrid")
ax = sns.barplot(data=top_avg, x='batting_average', y='batter',
palette='magma')
for bar in ax.patches:
    plt.text(bar.get_width() + 0.5, bar.get_y() + bar.get_height() /
2,
             f"{bar.get_width():.2f}", fontsize=10, va='center',
color='black')
plt.title('Top 10 Batting Averages (Min 2000 Runs) - All IPL Seasons',
fontsize=14)
plt.xlabel('Batting Average')
plt.ylabel('Batter')
plt.tight_layout()
plt.show()
```



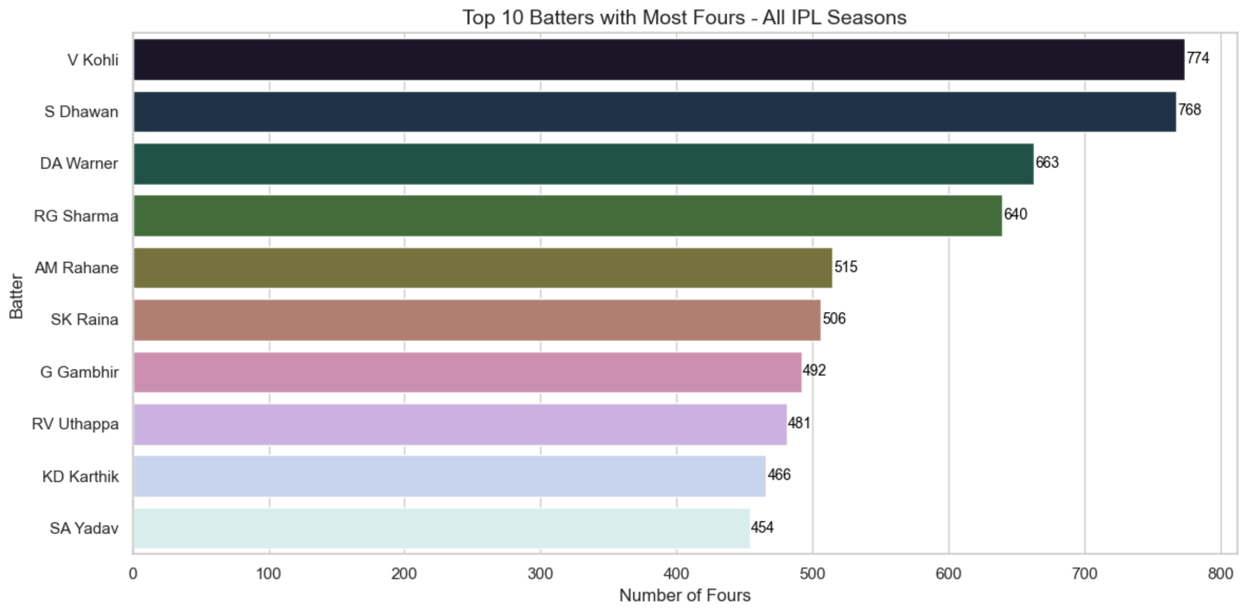
Top 10 Strike Rates (Min 2000 Runs Scored) - IPL

```
valid_balls = df[df['extra_type'] != 'wides']
batter_stats = valid_balls.groupby('batter').agg(
    total_runs=('runs_batter', 'sum'),
    balls_faced=('batter', 'count')
).reset_index()
batter_stats = batter_stats[batter_stats['total_runs'] >= 2000]
batter_stats['strike_rate'] = (batter_stats['total_runs'] /
batter_stats['balls_faced']) * 100
top_strike_rates = batter_stats.sort_values(by='strike_rate',
ascending=False).head(10)
plt.figure(figsize=(12, 6))
sns.set(style="whitegrid")
ax = sns.barplot(data=top_strike_rates, x='strike_rate', y='batter',
palette='magma')
for bar in ax.patches:
    plt.text(bar.get_width() + 1,
             bar.get_y() + bar.get_height() / 2,
             f"{bar.get_width():.2f}",
             va='center', fontsize=10, color='black')
plt.title('Top 10 Strike Rates (Min 2000 Runs) - All IPL Seasons',
fontsize=14)
plt.xlabel('Strike Rate')
plt.ylabel('Batter')
plt.tight_layout()
plt.show()
```



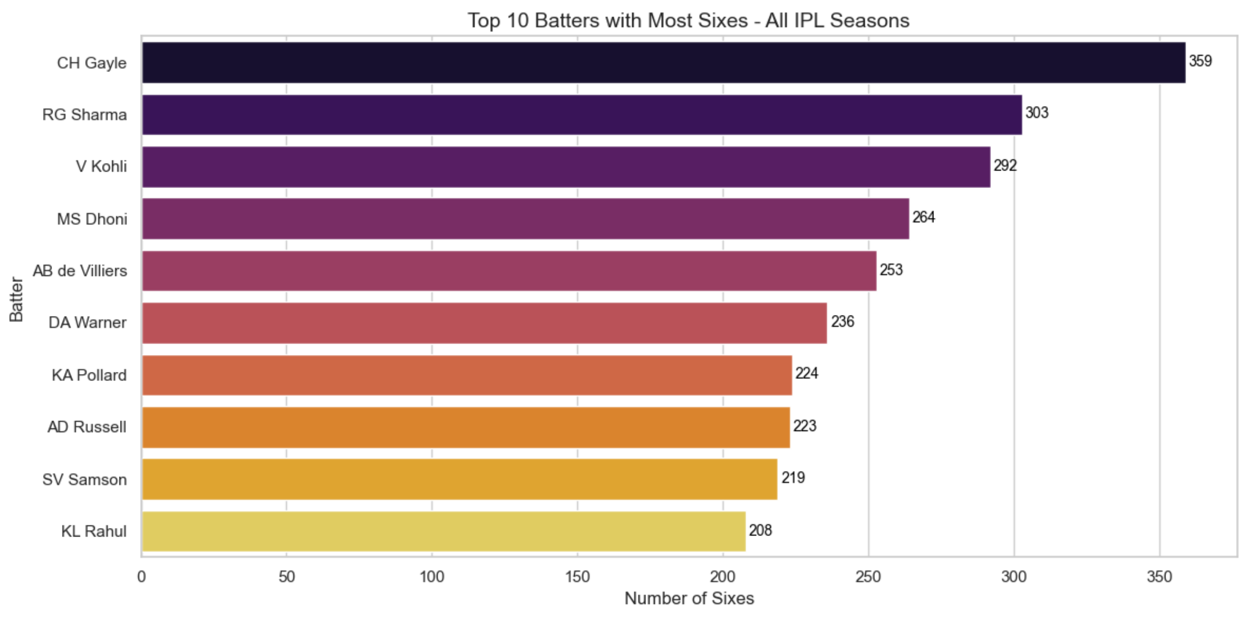
Top 10 Batters with Most Fours - IPL

```
fours_df = df[df['runs_batter'] == 4]
fours_count =
fours_df.groupby('batter').size().reset_index(name='fours')
top_fours = fours_count.sort_values(by='fours',
ascending=False).head(10)
plt.figure(figsize=(12, 6))
sns.set(style="whitegrid")
ax = sns.barplot(data=top_fours, x='fours', y='batter',
palette='cubehelix')
for bar in ax.patches:
    plt.text(bar.get_width() + 1,
             bar.get_y() + bar.get_height() / 2,
             int(bar.get_width()),
             va='center', fontsize=10, color='black')
plt.title('Top 10 Batters with Most Fours - All IPL Seasons',
fontsize=14)
plt.xlabel('Number of Fours')
plt.ylabel('Batter')
plt.tight_layout()
plt.show()
```



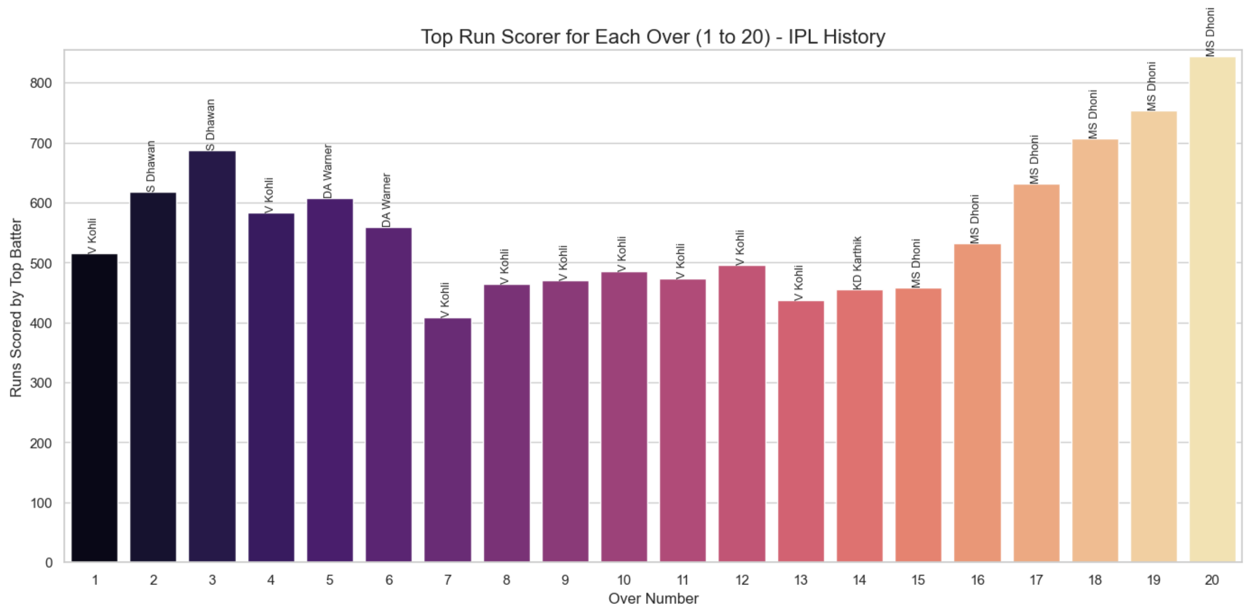
Top 10 Batters with Most Sixes - IPL

```
sixes_df = df[df['runs_batter'] == 6]
sixes_count =
sixes_df.groupby('batter').size().reset_index(name='sixes')
top_sixes = sixes_count.sort_values(by='sixes',
ascending=False).head(10)
plt.figure(figsize=(12, 6))
sns.set(style="whitegrid")
ax = sns.barplot(data=top_sixes, x='sixes', y='batter',
palette='inferno')
for bar in ax.patches:
    plt.text(bar.get_width() + 1,
             bar.get_y() + bar.get_height() / 2,
             int(bar.get_width()),
             va='center', fontsize=10, color='black')
plt.title('Top 10 Batters with Most Sixes - All IPL Seasons',
fontsize=14)
plt.xlabel('Number of Sixes')
plt.ylabel('Batter')
plt.tight_layout()
plt.show()
```



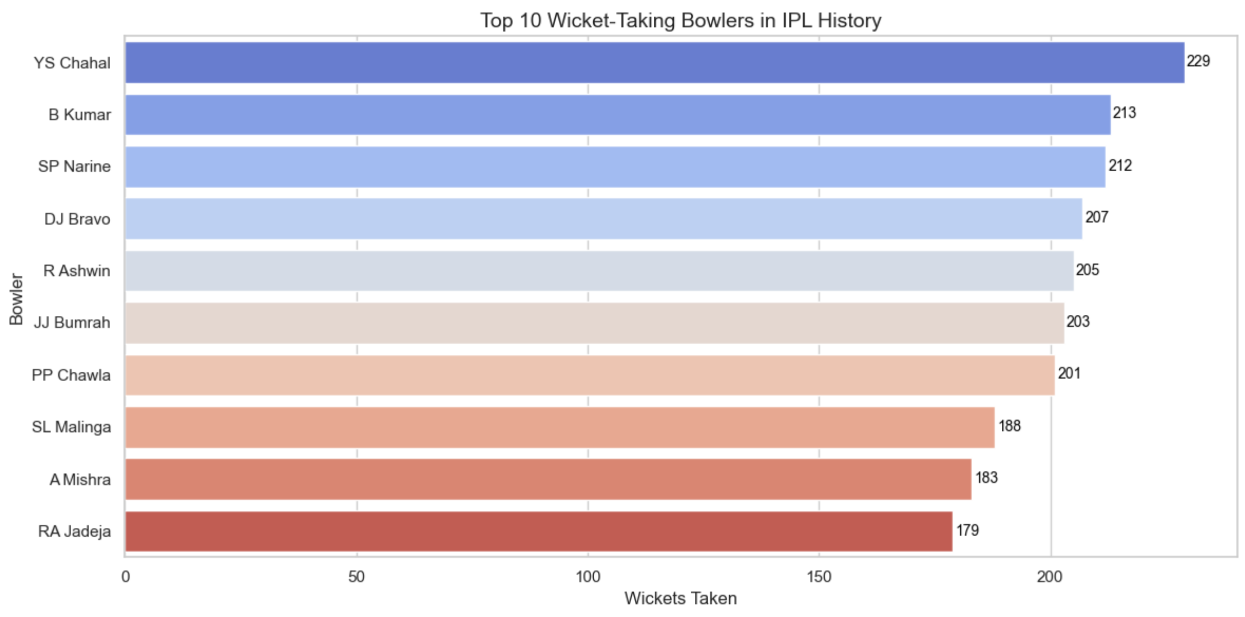
Top Run Scorer for Each Over (1 to 20) - IPL

```
df['over_int'] = df['over'].astype(float).apply(int)
df_1_20 = df[(df['over_int'] >= 0) & (df['over_int'] < 20)]
runs_per_over_batter = df_1_20.groupby(['over_int', 'batter'])
['runs_batter'].sum().reset_index()
top_scorers_per_over = runs_per_over_batter.loc[
    runs_per_over_batter.groupby('over_int')['runs_batter'].idxmax()
].reset_index(drop=True)
top_scorers_per_over = top_scorers_per_over.sort_values('over_int')
plt.figure(figsize=(14, 7))
sns.set(style="whitegrid")
ax = sns.barplot(data=top_scorers_per_over, x='over_int',
y='runs_batter', palette='magma')
for index, row in top_scorers_per_over.iterrows():
    ax.text(row['over_int'],
            row['runs_batter'] + 1,
            row['batter'],
            rotation=90, fontsize=9, ha='center', va='bottom')
plt.title('Top Run Scorer for Each Over (1 to 20) - IPL History',
fontsize=16)
plt.xlabel('Over Number')
plt.ylabel('Runs Scored by Top Batter')
plt.xticks(ticks=range(20), labels=range(1, 21))
plt.ylim(0, top_scorers_per_over['runs_batter'].max() + 10)
plt.tight_layout()
plt.show()
```



Top 10 Wicket Takers - IPL

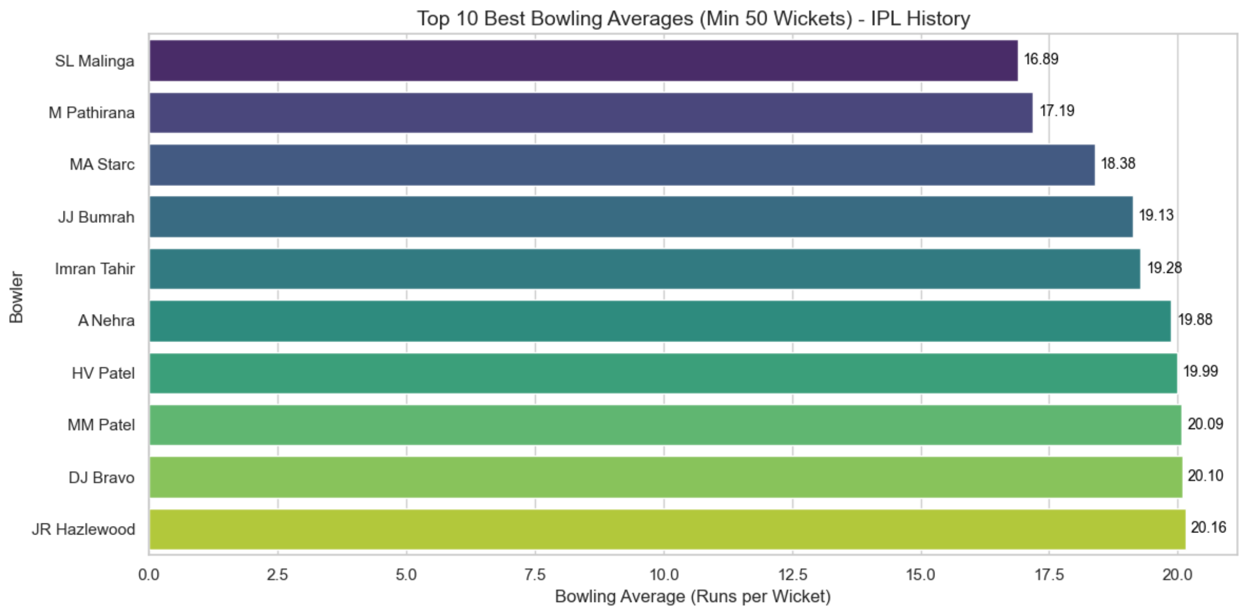
```
wickets_per_bowler =
df[df['player_out'].notnull()].groupby('bowler').size().reset_index(na
me='wickets')
top_bowlers = wickets_per_bowler.sort_values(by='wickets',
ascending=False).head(10)
plt.figure(figsize=(12, 6))
sns.set(style="whitegrid")
ax = sns.barplot(data=top_bowlers, x='wickets', y='bowler',
palette='coolwarm')
for bar in ax.patches:
    plt.text(bar.get_width() + 0.5,
             bar.get_y() + bar.get_height() / 2,
             int(bar.get_width()),
             va='center', fontsize=10, color='black')
plt.title('Top 10 Wicket-Taking Bowlers in IPL History', fontsize=14)
plt.xlabel('Wickets Taken')
plt.ylabel('Bowler')
plt.tight_layout()
plt.show()
```



Top 10 Best Bowling Averages (Min 50 Wickets) - IPL

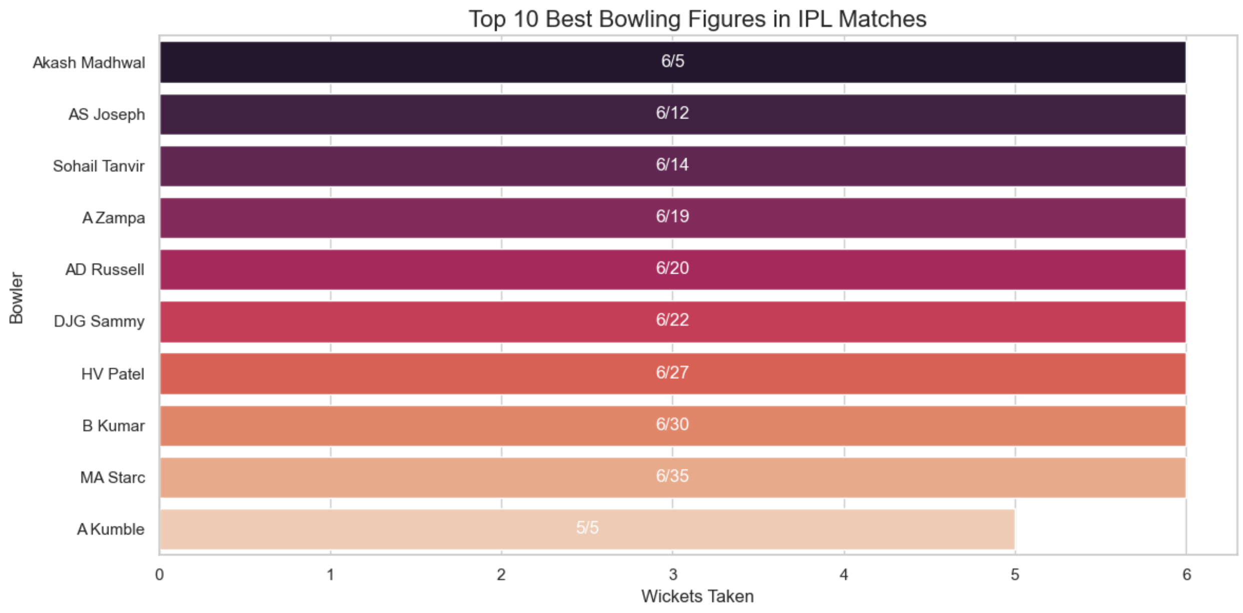
```
valid_balls = df[(df['valid_ball'] == 1) | (df['valid_ball'] == True)]

runs_conceded = valid_balls.groupby('bowler')
['runs_bowler'].sum().reset_index()
wickets =
df[df['player_out'].notnull()].groupby('bowler').size().reset_index(na
me='wickets')
bowling_stats = pd.merge(runs_conceded, wickets, on='bowler',
how='inner')
bowling_stats = bowling_stats[bowling_stats['wickets'] >= 50]
bowling_stats['bowling_average'] = bowling_stats['runs_bowler'] /
bowling_stats['wickets']
top_bowlers_avg =
bowling_stats.sort_values('bowling_average').head(10)
plt.figure(figsize=(12, 6))
sns.set(style="whitegrid")
ax = sns.barplot(data=top_bowlers_avg, x='bowling_average',
y='bowler', palette='viridis')
for bar in ax.patches:
    plt.text(bar.get_width() + 0.1,
             bar.get_y() + bar.get_height() / 2,
             f"{bar.get_width():.2f}",
             va='center', fontsize=10, color='black')
plt.title('Top 10 Best Bowling Averages (Min 50 Wickets) - IPL
History', fontsize=14)
```

```
plt.xlabel('Bowling Average (Runs per Wicket)')
plt.ylabel('Bowler')
plt.tight_layout()
plt.show()
```



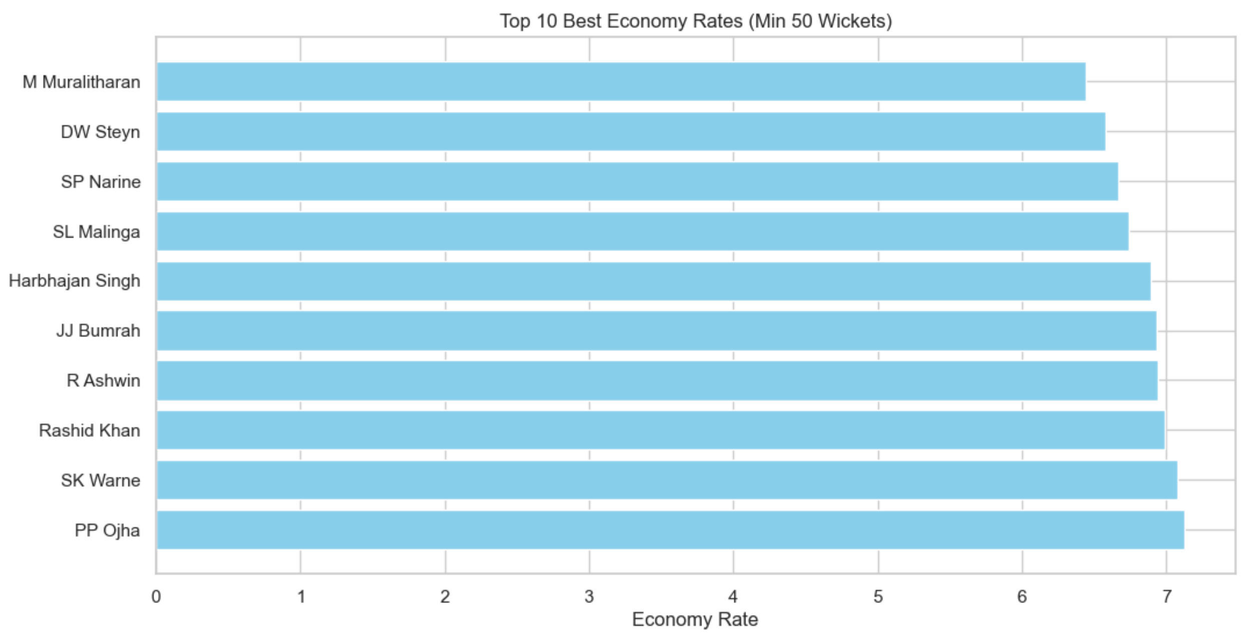
Top 10 Best Bowling Figures in IPL Matches

```
bowling_per_match = df.groupby(['match_id', 'bowler']).agg(
    runs_conceded=('runs_bowler', 'sum'),
    wickets=('player_out', lambda x: x.notnull().sum())
).reset_index()
bowling_per_match = bowling_per_match[bowling_per_match['wickets'] >
0]
best_figures = bowling_per_match.sort_values(
    by=['wickets', 'runs_conceded'],
    ascending=[False, True]
).head(10)
best_figures['figures'] = best_figures['wickets'].astype(str) + "/" +
best_figures['runs_conceded'].astype(str)
plt.figure(figsize=(12, 6))
sns.set(style="whitegrid")
ax = sns.barplot(data=best_figures, x='wickets', y='bowler',
palette='rocket')
for i, row in enumerate(best_figures.itertuples()):
    ax.text(row.wickets / 2, i, row.figures, color='white',
ha='center', va='center', fontsize=12)
plt.title('Top 10 Best Bowling Figures in IPL Matches', fontsize=16)
plt.xlabel('Wickets Taken')
plt.ylabel('Bowler')
plt.tight_layout()
plt.show()
```



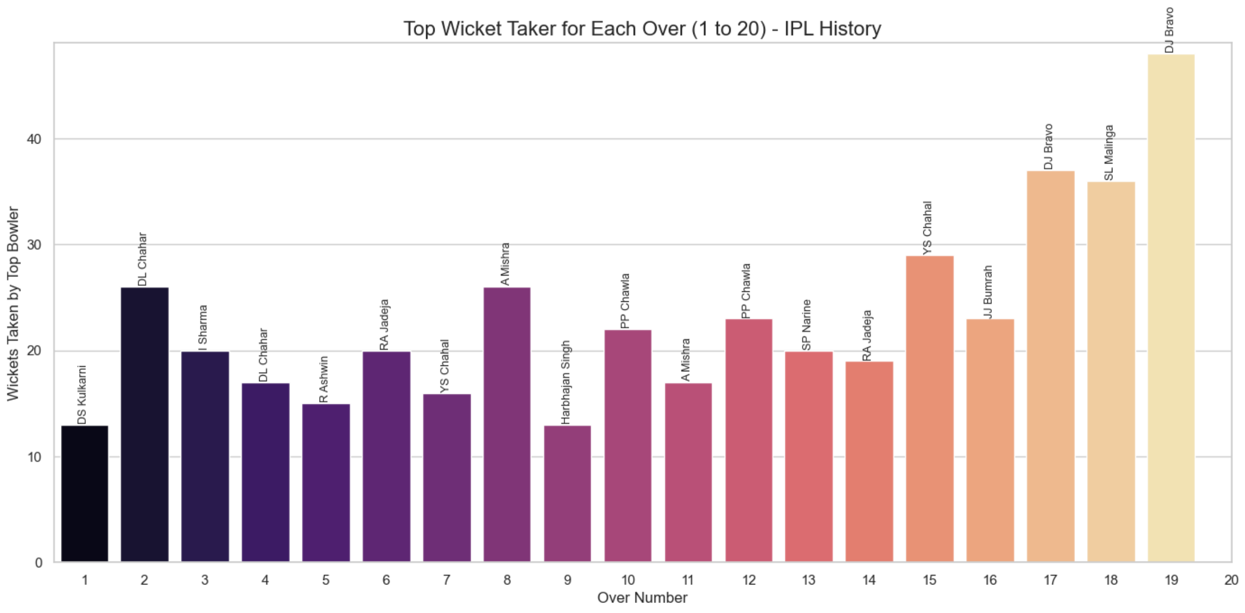
Top 10 Best Economy Rates (Min 50 Wickets)

```
valid_balls = df[df['valid_ball'] == 1]
bowler_stats = valid_balls.groupby('bowler').agg({
    'runs_bowler': 'sum',
    'ball_no': 'count',
    'player_out': lambda x: x.notnull().sum()
}).rename(columns={'ball_no': 'balls_bowled', 'player_out':
'wickets'})
bowler_stats = bowler_stats[bowler_stats['wickets'] >= 50]
bowler_stats['economy_rate'] = bowler_stats['runs_bowler'] /
(bowler_stats['balls_bowled'] / 6)
top10 = bowler_stats.sort_values('economy_rate').head(10)
plt.figure(figsize=(12,6))
plt.barh(top10.index, top10['economy_rate'], color='skyblue')
plt.xlabel('Economy Rate')
plt.title('Top 10 Best Economy Rates (Min 50 Wickets)')
plt.gca().invert_yaxis()
plt.show()
```



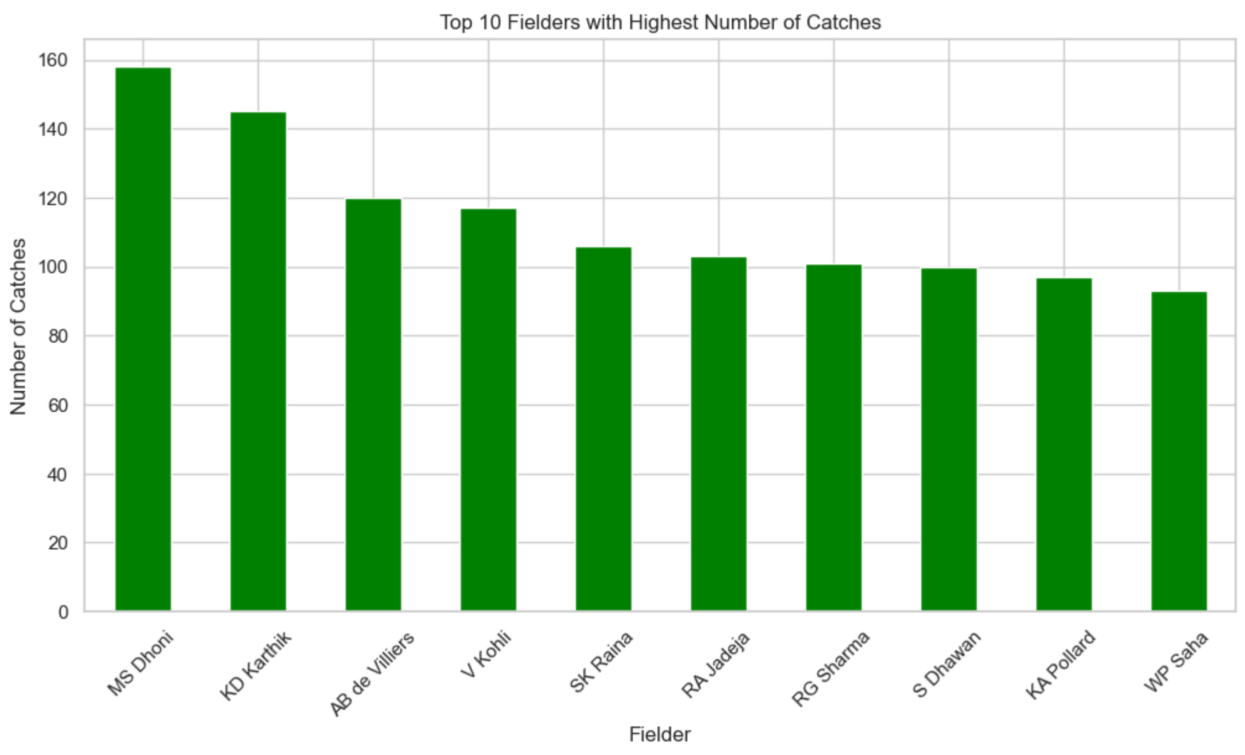
Top Wicket Taker for Each Over (1 to 20) - IPL

```
df['over_int'] = df['over'].astype(float).apply(int)
df_1_20 = df[(df['over_int'] >= 1) & (df['over_int'] <= 20)]
wickets = df_1_20[df_1_20['wicket_kind'].notna() &
(df_1_20['wicket_kind'] != '')]
wicket_counts = wickets.groupby(['over_int',
'bowler']).size().reset_index(name='wickets')
top_wicket_takers =
wicket_counts.loc[wicket_counts.groupby('over_int')
['wickets'].idxmax()].reset_index(drop=True)
top_wicket_takers = top_wicket_takers.sort_values('over_int')
plt.figure(figsize=(14, 7))
sns.set(style="whitegrid")
ax = sns.barplot(data=top_wicket_takers, x='over_int', y='wickets',
palette='magma')
for index, row in top_wicket_takers.iterrows():
    ax.text(row['over_int'] - 1,
            row['wickets'] + 0.1,
            row['bowler'],
            rotation=90, fontsize=9, ha='center', va='bottom')
plt.title('Top Wicket Taker for Each Over (1 to 20) - IPL History',
fontsize=16)
plt.xlabel('Over Number')
plt.ylabel('Wickets Taken by Top Bowler')
plt.xticks(ticks=range(20), labels=range(1, 21))
plt.ylim(0, top_wicket_takers['wickets'].max() + 1)
plt.tight_layout()
plt.show()
```



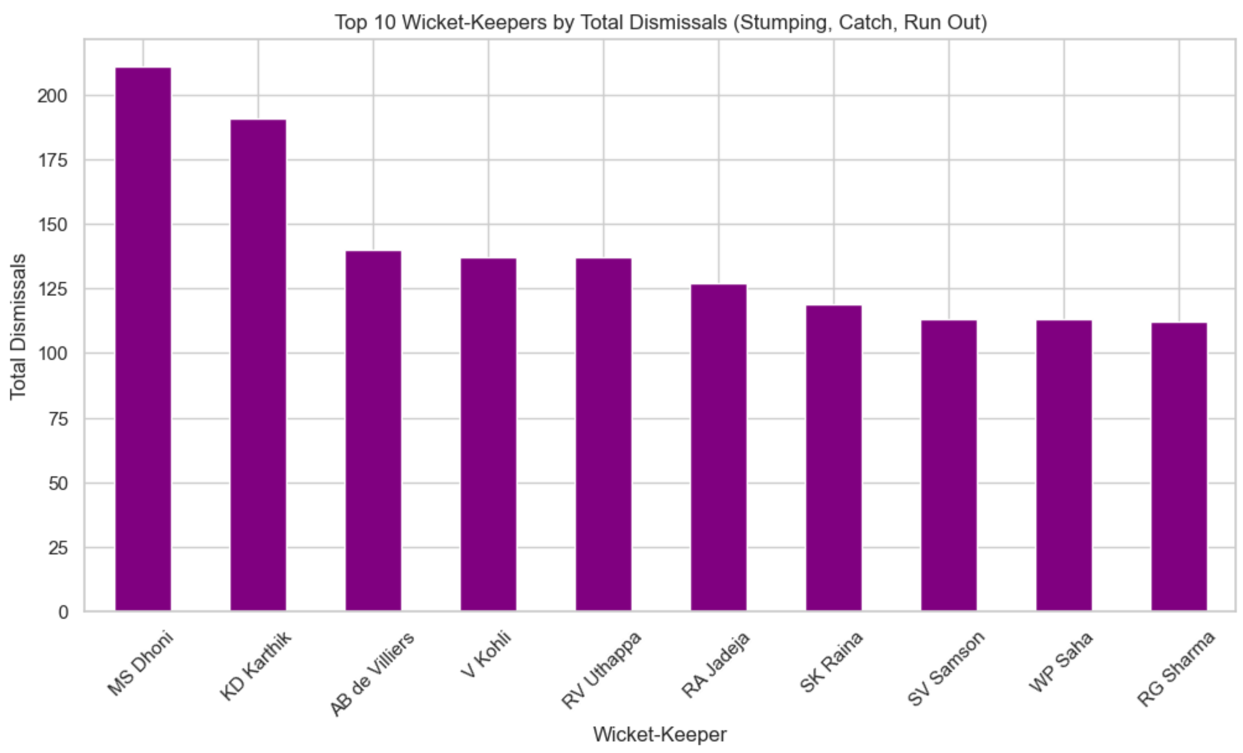
Top 10 Fielders with Most Catches - IPL

```
caught_df = df[df['wicket_kind'].str.contains('caught', case=False,
na=False)]
fielders_series = caught_df['fielders'].dropna().str.split(',')
all_fielders = [fielder.strip() for sublist in fielders_series for
fielder in sublist]
fielder_counts = pd.Series(all_fielders).value_counts()
top10_fielders = fielder_counts.head(10)
plt.figure(figsize=(12,6))
top10_fielders.plot(kind='bar', color='green')
plt.title('Top 10 Fielders with Highest Number of Catches')
plt.xlabel('Fielder')
plt.ylabel('Number of Catches')
plt.xticks(rotation=45)
plt.show()
```



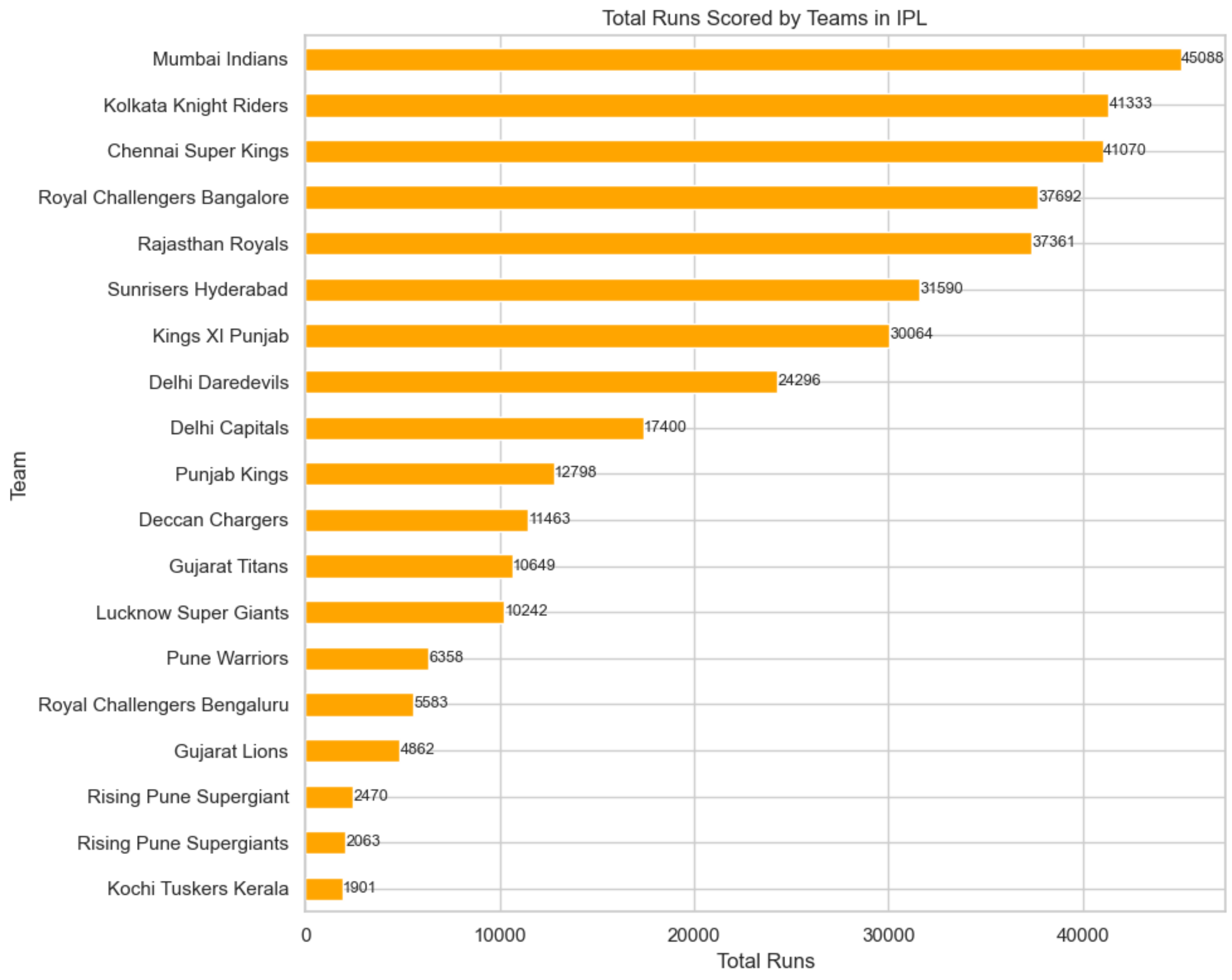
Top 10 Wicket-Keepers by Total Dismissals (Stumping, Catch, Run Out) - IPL

```
keeper_dismissals = df[df['wicket_kind'].str.lower().isin(['stumping',
'caught', 'run out'])]
keepers_involved =
keeper_dismissals['fielders'].dropna().str.split(',')
all_keepers = [k.strip() for sublist in keepers_involved for k in
sublist]
dismissals_count = pd.Series(all_keepers).value_counts()
top10_keepers = dismissals_count.head(10)
plt.figure(figsize=(12,6))
top10_keepers.plot(kind='bar', color='purple')
plt.title('Top 10 Wicket-Keepers by Total Dismissals (Stumping, Catch,
Run Out)')
plt.xlabel('Wicket-Keeper')
plt.ylabel('Total Dismissals')
plt.xticks(rotation=45)
plt.show()
```



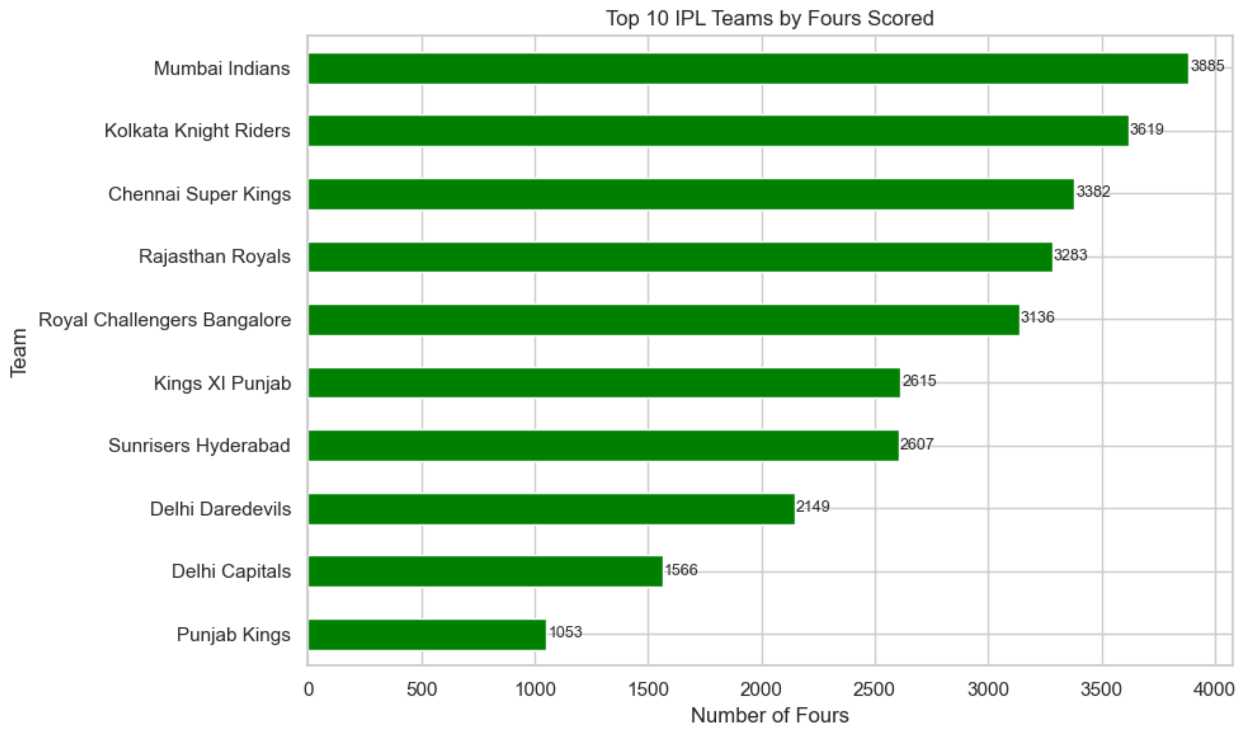
Total Runs Scored by Teams - IPL

```
ipl_df = df[df['event_name'].str.contains('IPL|Indian Premier League',
case=False, na=False)]
if ipl_df.empty:
    print("No IPL matches found in your dataset.")
else:
    team_runs = ipl_df.groupby('batting_team')
['runs_total'].sum().sort_values(ascending=True)
    plt.figure(figsize=(10, 8))
    ax = team_runs.plot(kind='barh', color='orange')
    plt.title('Total Runs Scored by Teams in IPL')
    plt.xlabel('Total Runs')
    plt.ylabel('Team')
    for i, val in enumerate(team_runs):
        ax.text(val + 10, i, str(val), va='center', fontsize=9)
    plt.tight_layout()
    plt.show()
```



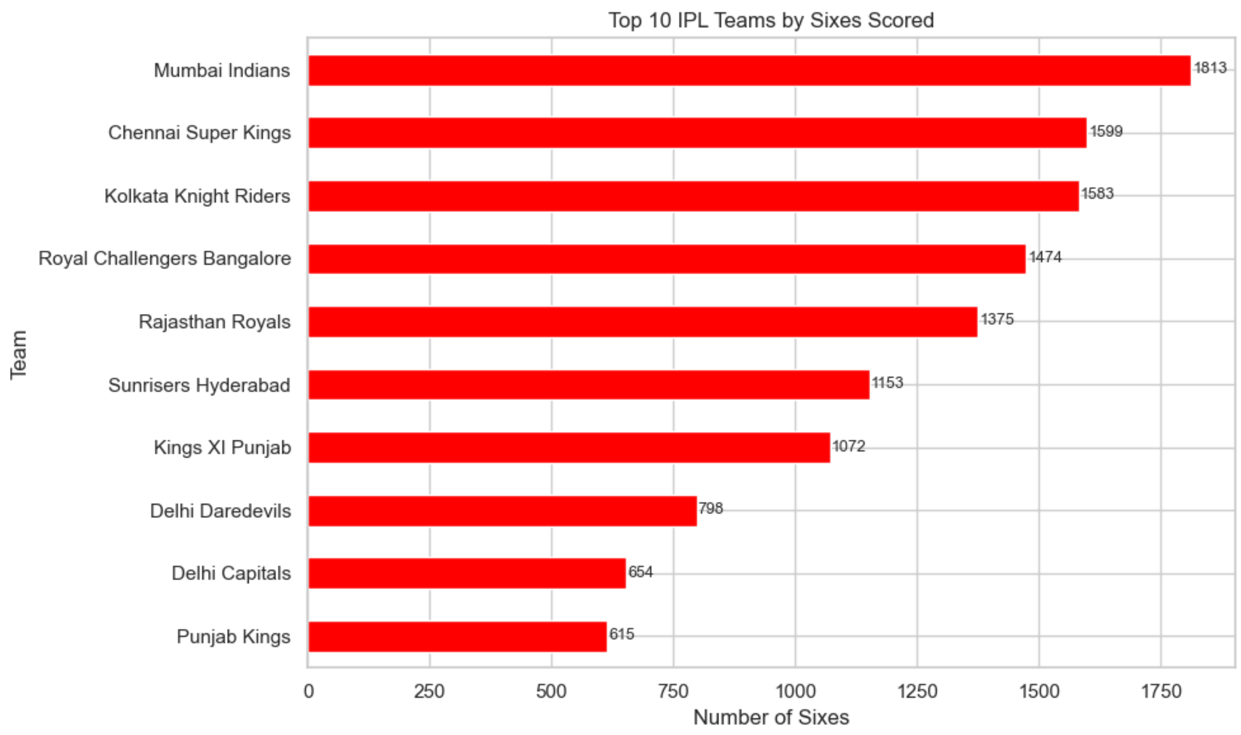
Most Fours by Teams - IPL 2025

```
ipl_df = df[df['event_name'].str.contains('IPL|Indian Premier League',
case=False, na=False)]
if ipl_df.empty:
    print("No IPL matches found in your dataset.")
else:
    fours_df = ipl_df[
        (ipl_df['runs_batter'] == 4) &
        (ipl_df['runs_not_boundary'] == 0) &
        (ipl_df['valid_ball'] == 1)
    ]
    team_fours = fours_df.groupby('batting_team').size()
    top10_fours =
team_fours.sort_values(ascending=False).head(10).sort_values(ascending
=True)
    plt.figure(figsize=(10, 6))
    ax = top10_fours.plot(kind='barh', color='green')
    plt.title('Top 10 IPL Teams by Fours Scored')
    plt.xlabel('Number of Fours')
    plt.ylabel('Team')
    for i, (team, val) in enumerate(top10_fours.items()):
        ax.text(val + 5, i, str(val), va='center', fontsize=9)
    plt.tight_layout()
    plt.show()
```



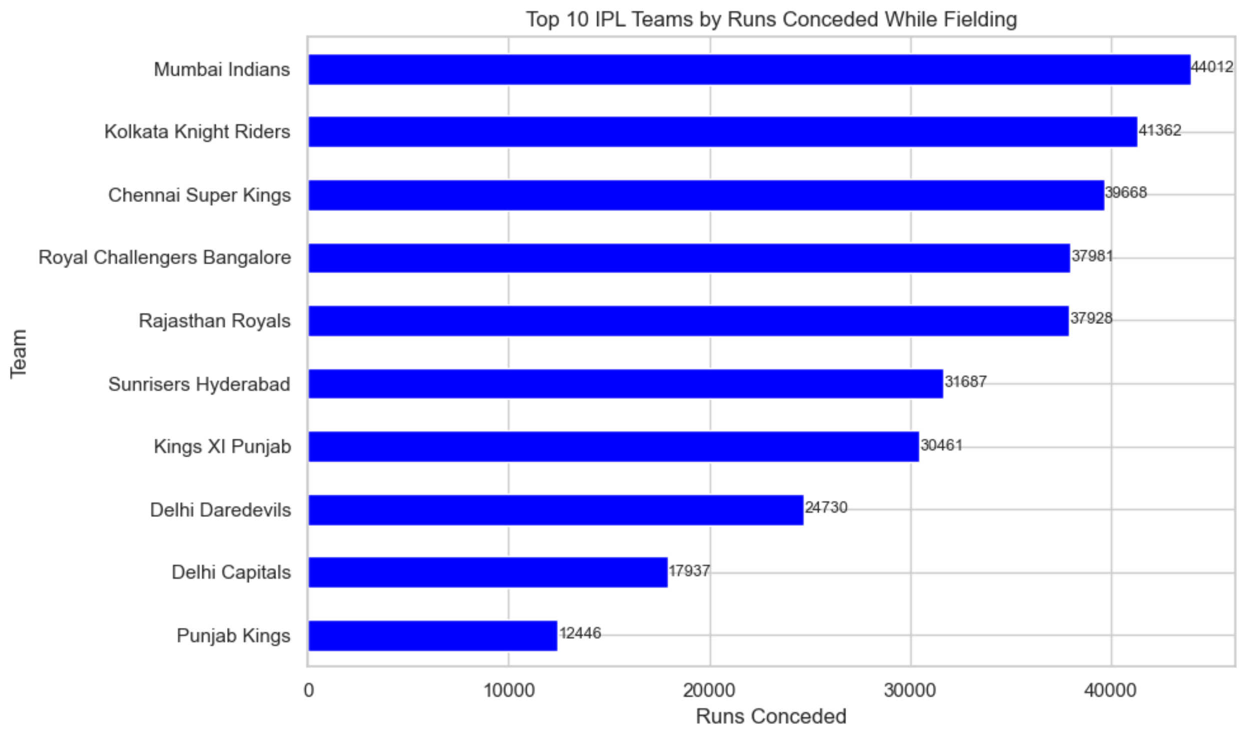
Most Sixes by Teams - IPL 2025

```
import pandas as pd
import matplotlib.pyplot as plt
ipl_df = df[df['event_name'].str.contains('IPL|Indian Premier League',
case=False, na=False)]
if ipl_df.empty:
    print("No IPL matches found in your dataset.")
else:
    sixes_df = ipl_df[
        (ipl_df['runs_batter'] == 6) &
        (ipl_df['runs_not_boundary'] == 0) &
        (ipl_df['valid_ball'] == 1)
    ]
    team_sixes = sixes_df.groupby('batting_team').size()
    top10_sixes =
team_sixes.sort_values(ascending=False).head(10).sort_values(ascending
=True)
    plt.figure(figsize=(10, 6))
    ax = top10_sixes.plot(kind='barh', color='red')
    plt.title('Top 10 IPL Teams by Sixes Scored')
    plt.xlabel('Number of Sixes')
    plt.ylabel('Team')
    for i, (team, val) in enumerate(top10_sixes.items()):
        ax.text(val + 3, i, str(val), va='center', fontsize=9)
    plt.tight_layout()
    plt.show()
```



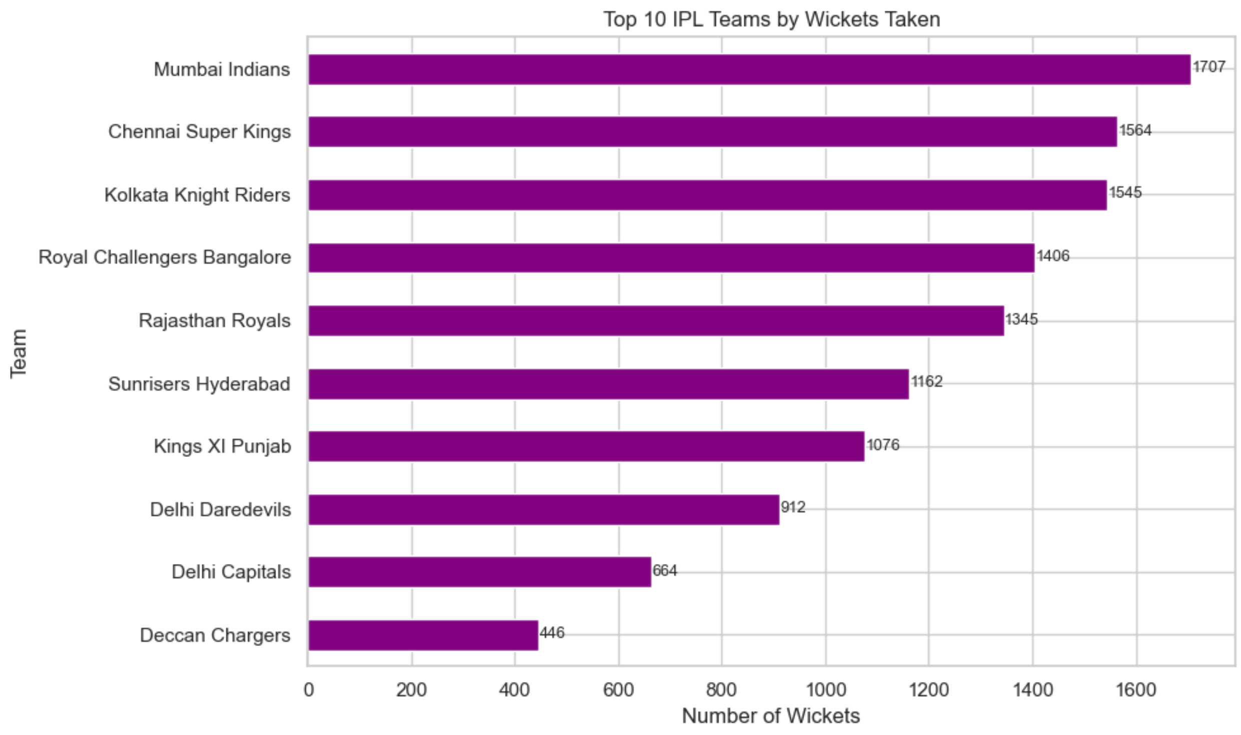
Total Runs Conceded by Teams While Fielding - IPL

```
ipl_df = df[df['event_name'].str.contains('IPL|Indian Premier League',
case=False, na=False)]
if ipl_df.empty:
    print("No IPL matches found in your dataset.")
else:
    runs_conceded = ipl_df.groupby('bowling_team')['runs_total'].sum()
    runs_conceded_top10 =
runs_conceded.sort_values(ascending=False).head(10).sort_values(ascend
ing=True)
    plt.figure(figsize=(10, 6))
    ax = runs_conceded_top10.plot(kind='barh', color='blue')
    plt.title('Top 10 IPL Teams by Runs Conceded While Fielding')
    plt.xlabel('Runs Conceded')
    plt.ylabel('Team')
    for i, (team, val) in enumerate(runs_conceded_top10.items()):
        ax.text(val + 10, i, str(val), va='center', fontsize=9)
    plt.tight_layout()
    plt.show()
```



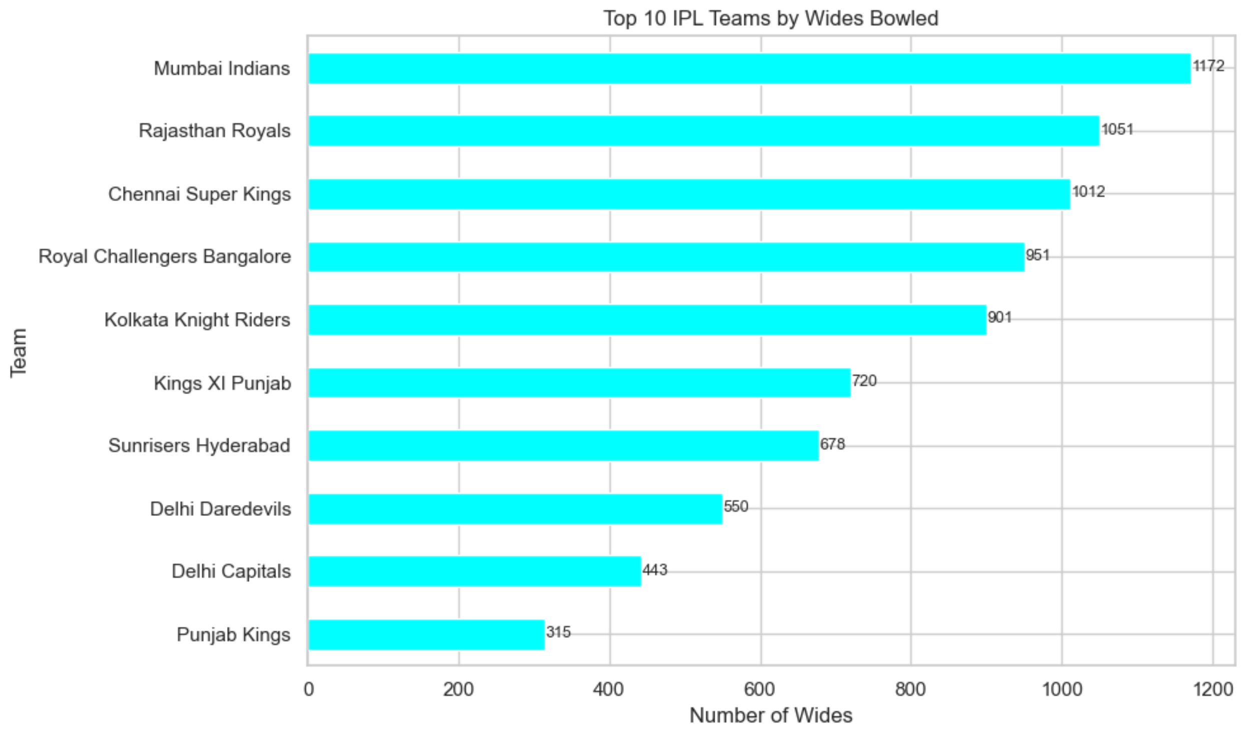
Most Wickets by Teams - IPL

```
ipl_df = df[df['event_name'].str.contains('IPL|Indian Premier League',
case=False, na=False)]
if ipl_df.empty:
    print("No IPL matches found in your dataset.")
else:
    wickets_df = ipl_df[ipl_df['wicket_kind'].notnull() &
(ipl_df['wicket_kind'] != '')]
    wickets_by_team = wickets_df.groupby('bowling_team').size()
    top10_wickets =
wickets_by_team.sort_values(ascending=False).head(10).sort_values(asce
nding=True)
    plt.figure(figsize=(10, 6))
    ax = top10_wickets.plot(kind='barh', color='purple')
    plt.title('Top 10 IPL Teams by Wickets Taken')
    plt.xlabel('Number of Wickets')
    plt.ylabel('Team')
    for i, (team, val) in enumerate(top10_wickets.items()):
        ax.text(val + 1, i, str(val), va='center', fontsize=9)
    plt.tight_layout()
    plt.show()
```



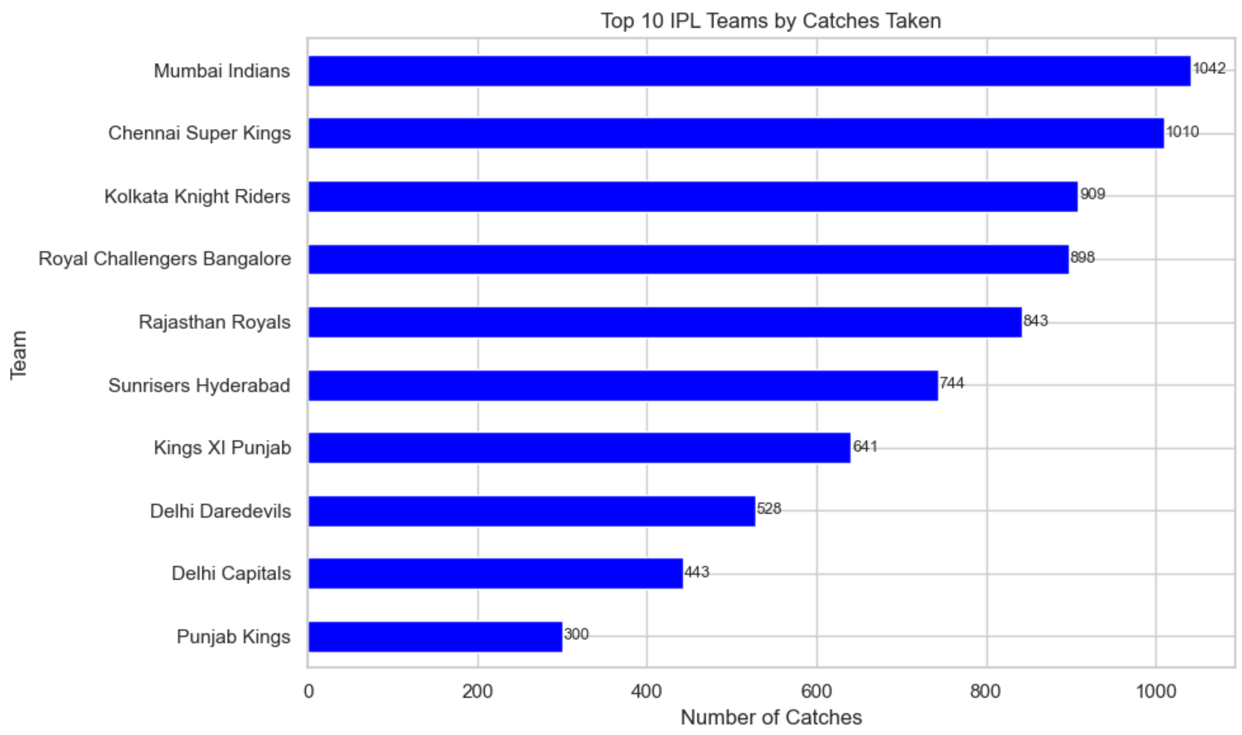
Most Wides Bowled by Teams - IPL

```
ipl_df = df[df['event_name'].str.contains('IPL|Indian Premier League',
case=False, na=False)]
if ipl_df.empty:
    print("No IPL matches found in your dataset.")
else:
    wides_df = ipl_df[ipl_df['extra_type'].str.contains('wides',
case=False, na=False)]
    if wides_df.empty:
        print("No wides found in IPL data.")
    else:
        wides_by_team = wides_df.groupby('bowling_team').size()
        top10_wides =
wides_by_team.sort_values(ascending=False).head(10).sort_values(ascend
ing=True)
        plt.figure(figsize=(10, 6))
        ax = top10_wides.plot(kind='barh', color='cyan')
        plt.title('Top 10 IPL Teams by Wides Bowled')
        plt.xlabel('Number of Wides')
        plt.ylabel('Team')
        for i, (team, val) in enumerate(top10_wides.items()):
            ax.text(val + 1, i, str(val), va='center', fontsize=9)
        plt.tight_layout()
        plt.show()
```



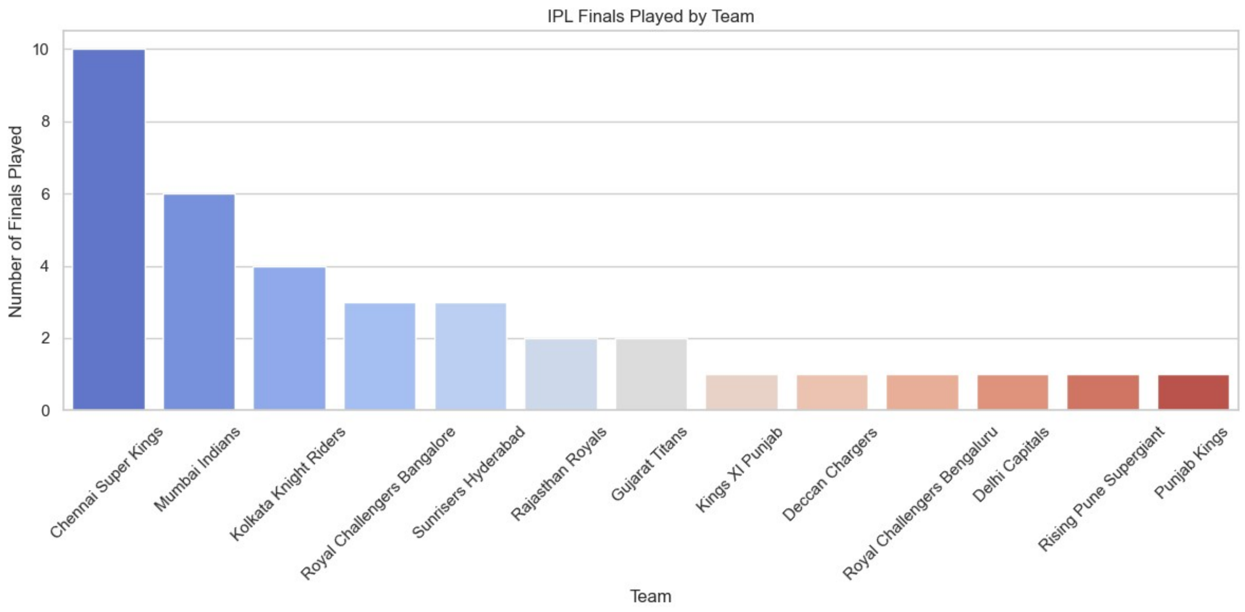
Most Catches by Teams - IPL

```
ipl_df = df[df['event_name'].str.contains('IPL|Indian Premier League',
case=False, na=False)]
if ipl_df.empty:
    print("No IPL matches found in your dataset.")
else:
    caught_df = ipl_df[ipl_df['wicket_kind'] == 'caught']
    catches_by_team = caught_df.groupby('bowling_team').size()
    top10_catches =
catches_by_team.sort_values(ascending=False).head(10).sort_values(asce
nding=True)
    plt.figure(figsize=(10,6))
    ax = top10_catches.plot(kind='barh', color='blue')
    plt.title('Top 10 IPL Teams by Catches Taken')
    plt.xlabel('Number of Catches')
    plt.ylabel('Team')
    for i, (team, val) in enumerate(top10_catches.items()):
        ax.text(val + 1, i, str(val), va='center', fontsize=9)
    plt.tight_layout()
    plt.show()
```



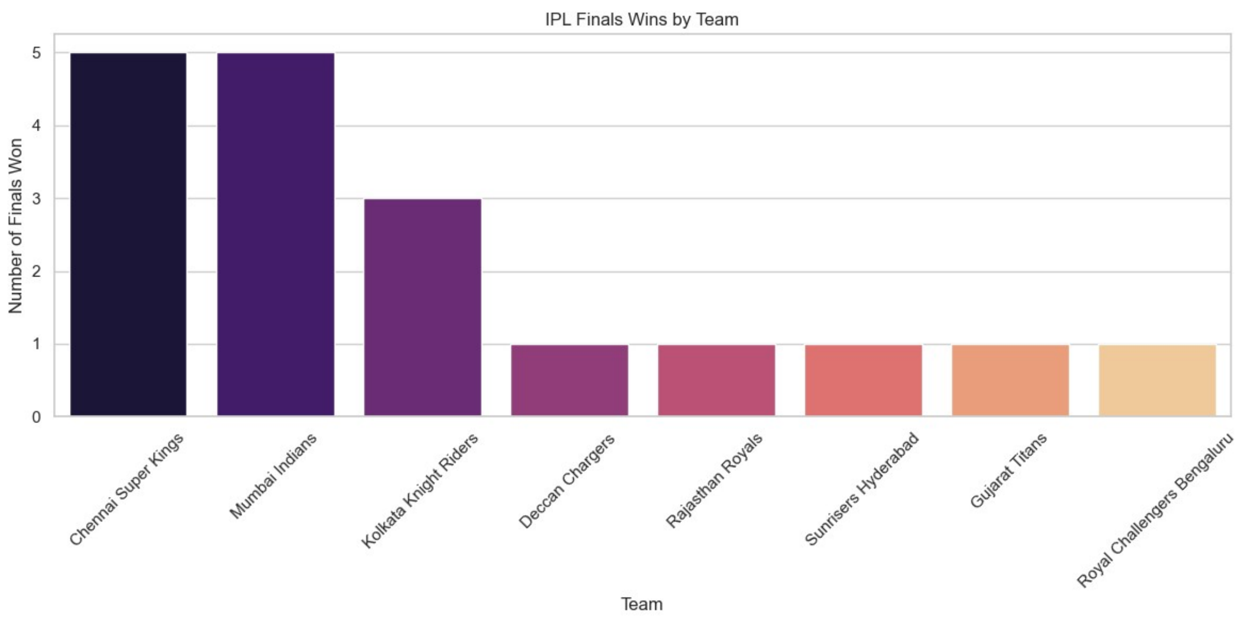
IPL Finals Played by Team

```
finals = df[df['stage'].str.lower() == 'final']
final_matches = finals.drop_duplicates(subset='match_id')
first_innings = final_matches[final_matches['innings'] == 1]
teams_played = pd.concat([first_innings['batting_team'],
first_innings['bowling_team']])
finals_played_count = teams_played.value_counts().reset_index()
finals_played_count.columns = ['team', 'finals_played']
plt.figure(figsize=(12, 6))
sns.barplot(data=finals_played_count, x='team', y='finals_played',
palette='coolwarm')
plt.title('IPL Finals Played by Team')
plt.xlabel('Team')
plt.ylabel('Number of Finals Played')
plt.xticks(rotation=45)
plt.tight_layout()
plt.show()
```



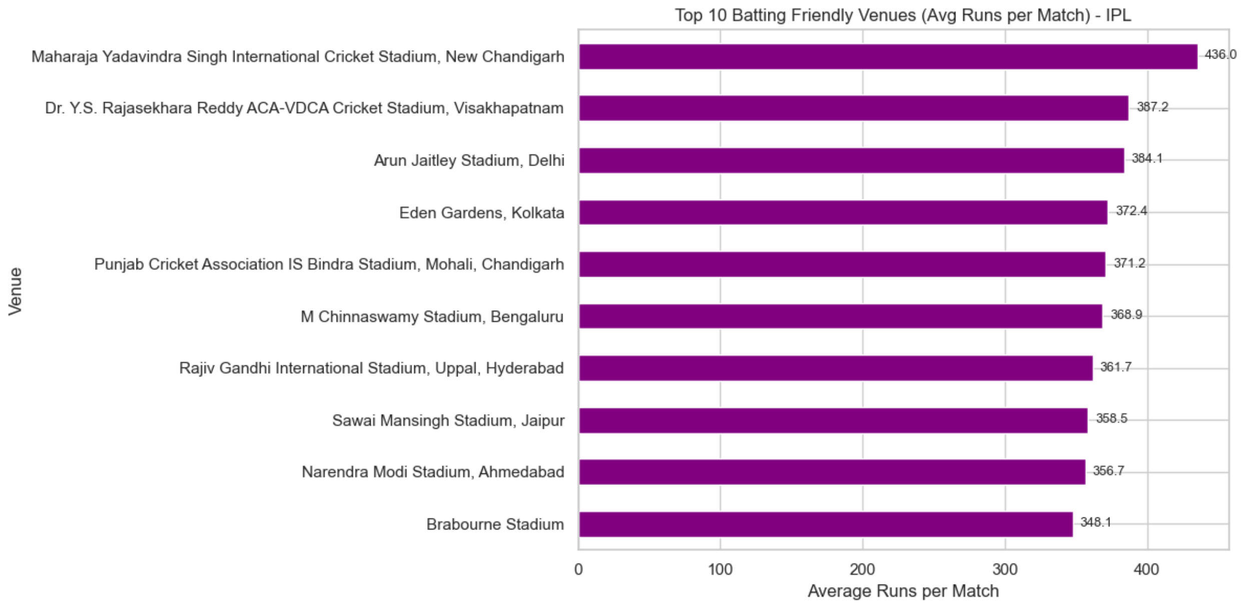
IPL Finals Wins by Team

```
finals = df[df['stage'].str.lower() == 'final']
final_matches = finals.drop_duplicates(subset='match_id')
final_winners =
final_matches['match_won_by'].value_counts().reset_index()
final_winners.columns = ['team', 'finals_won']
plt.figure(figsize=(12, 6))
sns.barplot(data=final_winners, x='team', y='finals_won',
palette='magma')
plt.title('IPL Finals Wins by Team')
plt.xlabel('Team')
plt.ylabel('Number of Finals Won')
plt.xticks(rotation=45)
plt.tight_layout()
plt.show()
```



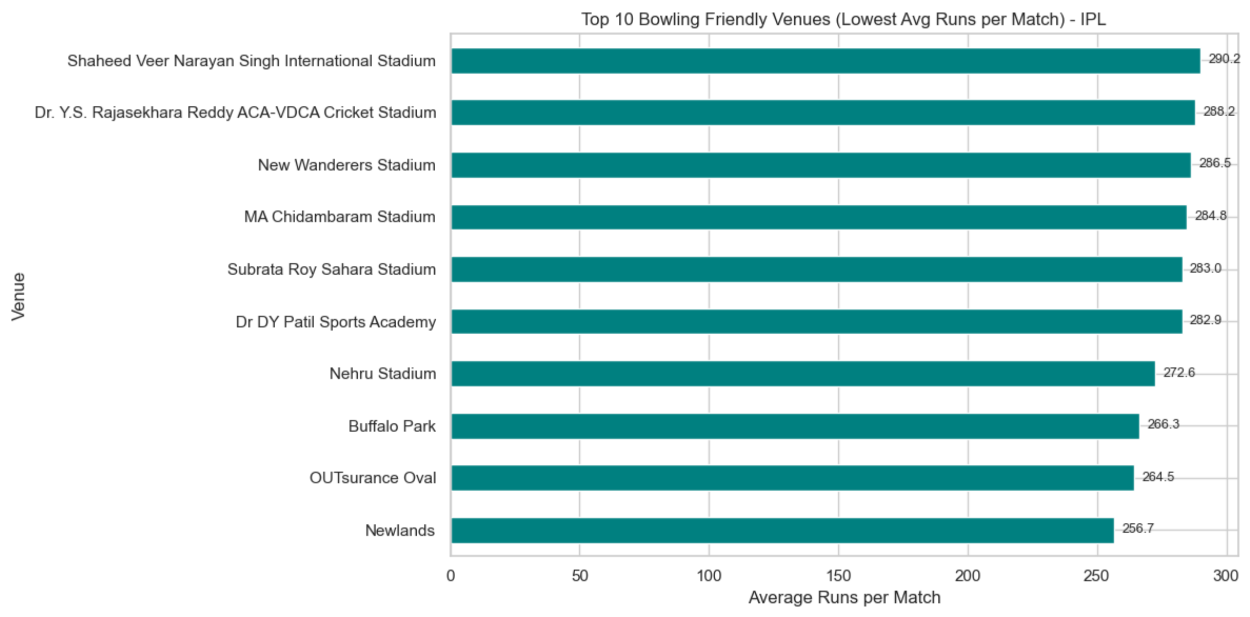
Top 10 Batting Friendly Venues (Avg Runs per Match)

```
ipl_df = df[df['event_name'].str.contains('IPL|Indian Premier League',
case=False, na=False)]
if ipl_df.empty:
    print("No IPL matches found in your dataset.")
else:
    runs_per_match = ipl_df.groupby(['venue', 'match_id'])
['runs_total'].sum().reset_index()
    avg_runs_per_venue = runs_per_match.groupby('venue')
['runs_total'].mean()
    top10_venues =
avg_runs_per_venue.sort_values(ascending=False).head(10).sort_values(a
scending=True)
    plt.figure(figsize=(12, 6))
    ax = top10_venues.plot(kind='barh', color='purple')
    plt.title('Top 10 Batting Friendly Venues (Avg Runs per Match) -
IPL')
    plt.xlabel('Average Runs per Match')
    plt.ylabel('Venue')
    for i, (venue, val) in enumerate(top10_venues.items()):
        ax.text(val + 5, i, f"{val:.1f}", va='center', fontsize=9)
    plt.tight_layout()
    plt.show()
```



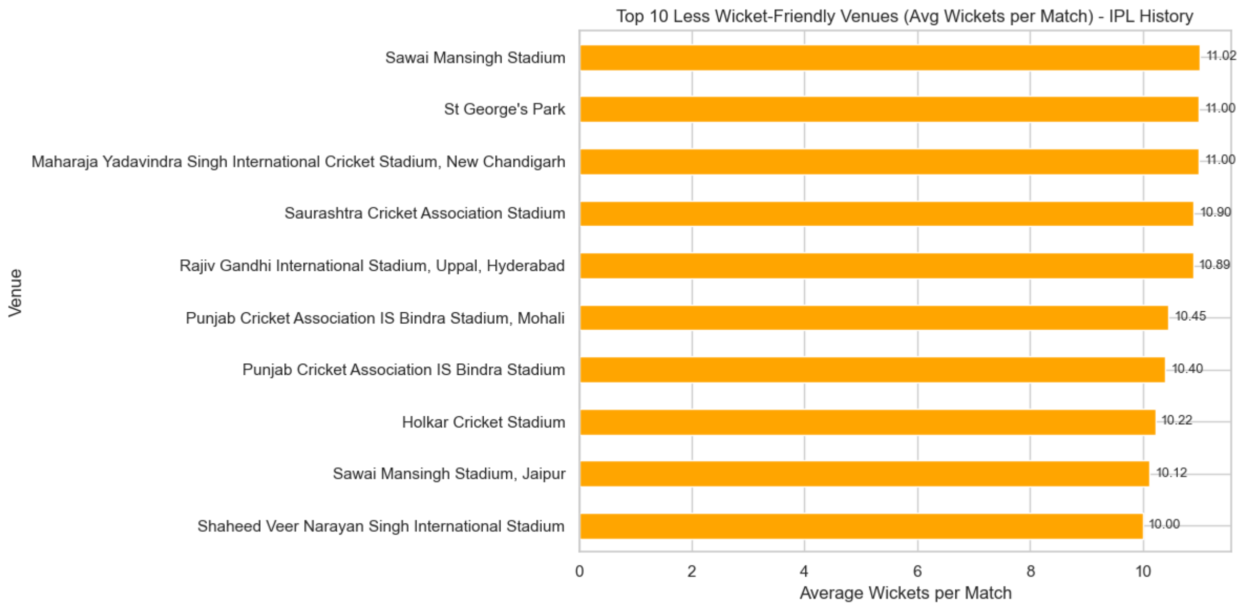
Top 10 Bowling Friendly Venues (Lowest Avg Runs Conceded per Match) - IPL

```
ipl_df = df[df['event_name'].str.contains('IPL|Indian Premier League',
case=False, na=False)]
if ipl_df.empty:
    print("No IPL matches found in your dataset.")
else:
    runs_per_match = ipl_df.groupby(['venue', 'match_id'])
['runs_total'].sum().reset_index()
    avg_runs_per_venue = runs_per_match.groupby('venue')
['runs_total'].mean()
    top10_bowling_venues =
avg_runs_per_venue.sort_values(ascending=True).head(10)
    plt.figure(figsize=(12, 6))
    ax = top10_bowling_venues.plot(kind='barh', color='teal')
    plt.title('Top 10 Bowling Friendly Venues (Lowest Avg Runs per
Match) - IPL')
    plt.xlabel('Average Runs per Match')
    plt.ylabel('Venue')
    for i, (venue, val) in enumerate(top10_bowling_venues.items()):
        ax.text(val + 3, i, f"{val:.1f}", va='center', fontsize=9)
    plt.tight_layout()
    plt.show()
```



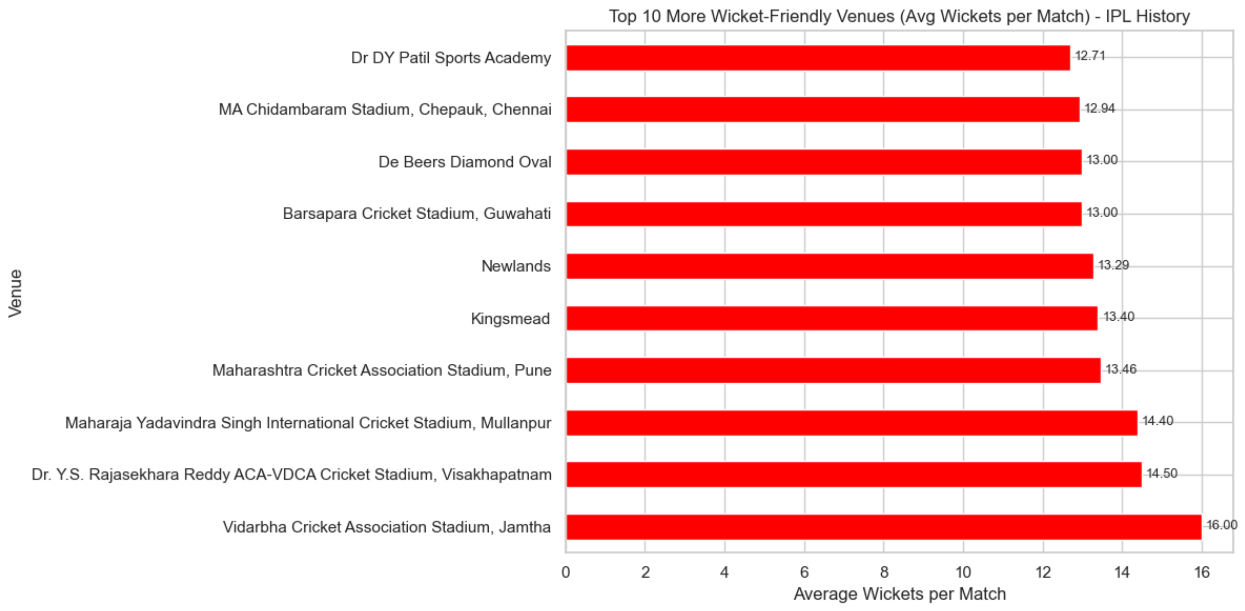
Top 10 Less Wicket-Friendly Venues (Avg Wickets per Match) - IPL

```
ipl_df = df[df['event_name'].str.contains('IPL|Indian Premier League',
case=False, na=False)]
if ipl_df.empty:
    print("No IPL matches found in your dataset.")
else:
    wickets_df = ipl_df[ipl_df['wicket_kind'].notna()]
    wickets_per_match = wickets_df.groupby(['venue',
'match_id']).size().reset_index(name='wickets')
    avg_wickets_per_venue = wickets_per_match.groupby('venue')
['wickets'].mean()
    top10_less_wicket_friendly_venues =
avg_wickets_per_venue.sort_values(ascending=True).head(10)
    plt.figure(figsize=(12, 6))
    ax = top10_less_wicket_friendly_venues.plot(kind='barh',
color='orange')
    plt.title('Top 10 Less Wicket-Friendly Venues (Avg Wickets per
Match) - IPL History')
    plt.xlabel('Average Wickets per Match')
    plt.ylabel('Venue')
    for i, (venue, val) in
enumerate(top10_less_wicket_friendly_venues.items()):
        ax.text(val + 0.1, i, f"{val:.2f}", va='center', fontsize=9)
    plt.tight_layout()
    plt.show()
```



Top 10 More Wicket-Friendly Venues (Avg Wickets per Match) - IPL

```
ipl_df = df[df['event_name'].str.contains('IPL|Indian Premier League',
case=False, na=False)]
if ipl_df.empty:
    print("No IPL matches found in your dataset.")
else:
    wickets_df = ipl_df[ipl_df['wicket_kind'].notna()]
    wickets_per_match = wickets_df.groupby(['venue',
'match_id']).size().reset_index(name='wickets')
    avg_wickets_per_venue = wickets_per_match.groupby('venue')
['wickets'].mean()
    top10_more_wicket_friendly_venues =
avg_wickets_per_venue.sort_values(ascending=False).head(10)
    plt.figure(figsize=(12, 6))
    ax = top10_more_wicket_friendly_venues.plot(kind='barh',
color='red')
    plt.title('Top 10 More Wicket-Friendly Venues (Avg Wickets per
Match) - IPL History')
    plt.xlabel('Average Wickets per Match')
    plt.ylabel('Venue')
    for i, (venue, val) in
enumerate(top10_more_wicket_friendly_venues.items()):
        ax.text(val + 0.1, i, f"{val:.2f}", va='center', fontsize=9)
    plt.tight_layout()
    plt.show()
```



Top 10 More Wicket-Friendly Venues (Avg Wickets per Match) - IPL History
Dr DY Patil Sports Academy
MA Chidambaram Stadium, Chepauk, Chennai
De Beers Diamond Oval
Barsapara Cricket Stadium, Guwahati
Newlands
Kingsmead
Maharashtra Cricket Association Stadium, Pune
Maharaja Yadavindra Singh International Cricket Stadium, Mullanpur
Dr. Y.S. Rajasekhara Reddy ACA-VDCA Cricket Stadium, Visakhapatnam
Vidarbha Cricket Association Stadium, Jamtha
12.71
12.94
13.00
13.00
13.29
13.40
13.46
14.40
14.50
16.00
Venue
0
2
4
6
8
10
12
14
16
Average Wickets per Match