```
In [1]:  import pandas as pd
         import plotly.express as px
         import plotly.graph_objects as go

         data = pd.read_csv("IPL 2022.csv")
         print(data.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
```
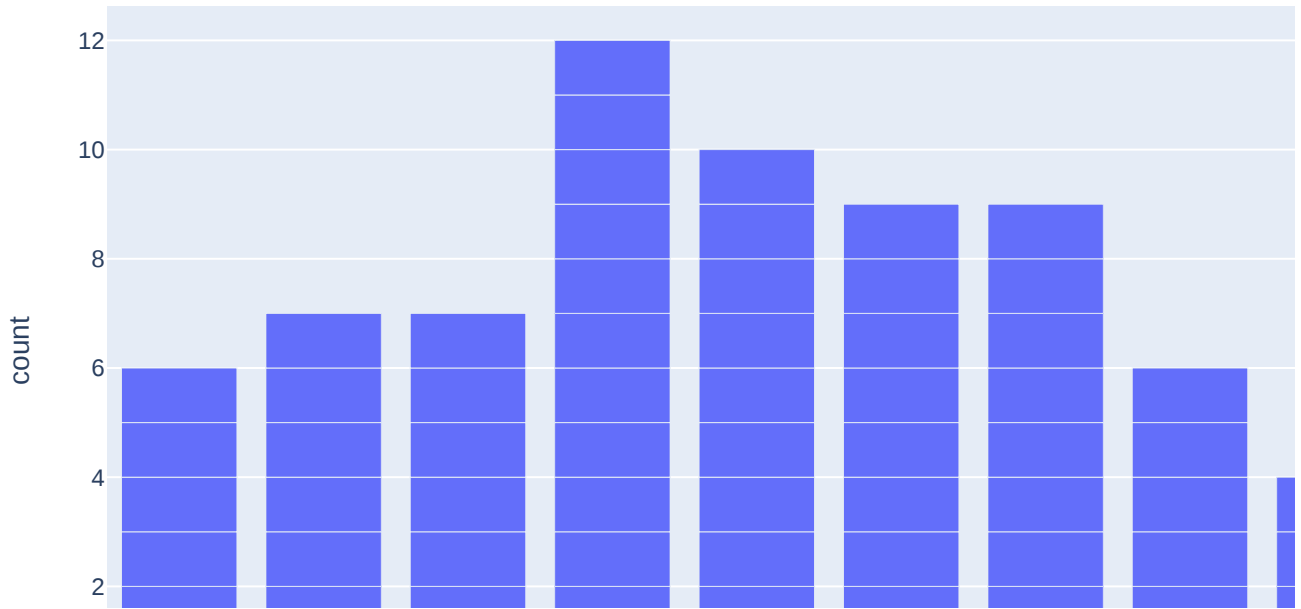
The dataset contains all the information needed to summarize the story of IPL 2022 so far. So let's start by looking at the number of matches won by each team in IPL 2022:

```
In [2]:  figure = px.bar(data, x=data["match_winner"],
                 title="Number of Matches Won in IPL 2022")
         figure.show()
```
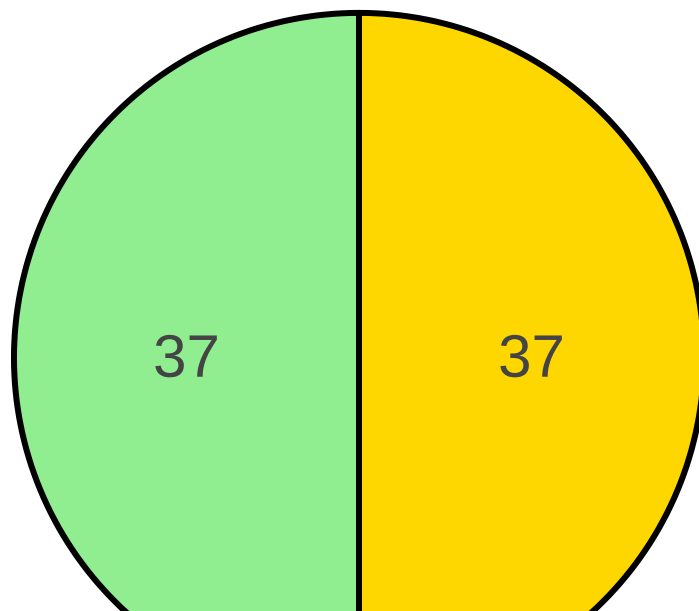
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So, currently, Gujrat is leading the tournament by winning eight matches. It is an achievement as a new team for Gujrat in IPL. Now let's see how most of the teams win. Here we will analyze whether most of the teams win by defending (batting first) or chasing (batting second):

In [3]:
```python
data["won_by"] = data["won_by"].map({"Wickets": "Chasing",
                                     "Runs": "Defending"})
won_by = data["won_by"].value_counts()
label = won_by.index
counts = won_by.values
colors = ['gold','lightgreen']

fig = go.Figure(data=[go.Pie(labels=label, values=counts)])
fig.update_layout(title_text='Number of Matches Won By Defending Or Chasing')
fig.update_traces(hoverinfo='label+percent', textinfo='value',
                  textfont_size=30,
                  marker=dict(colors=colors,
                              line=dict(color='black', width=3)))
fig.show()
```

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Number of Matches Won By Defending Or Chasing

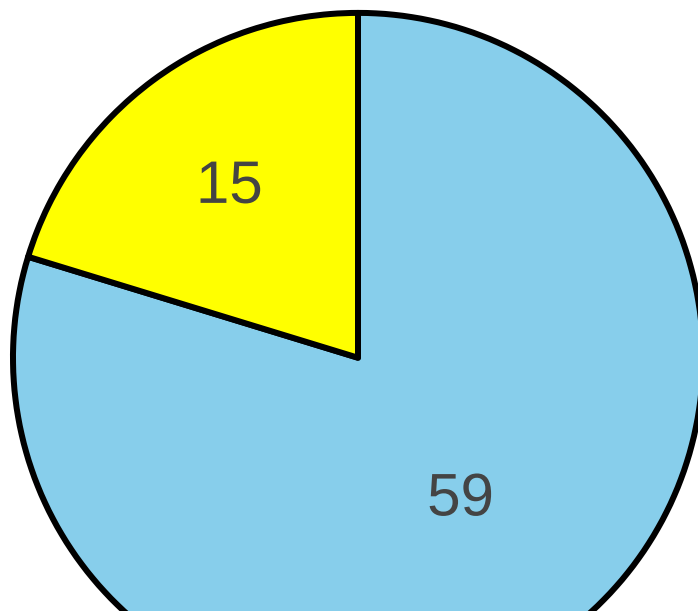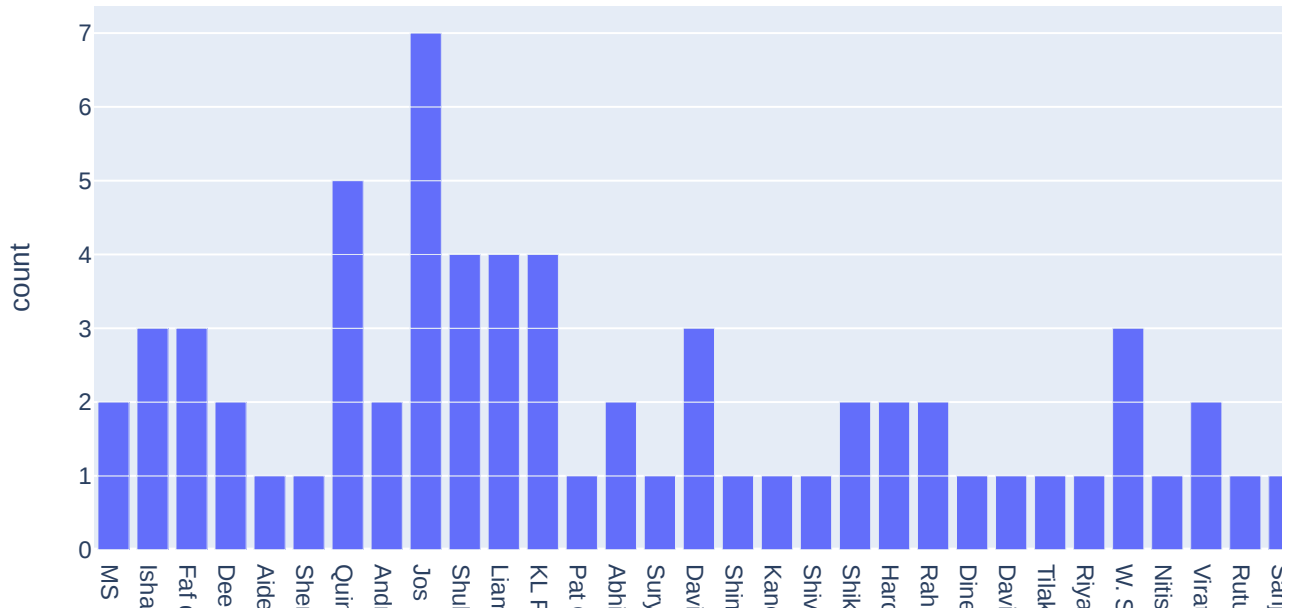Number of Matches Won By Defending Or Chasing

So, currently, 24 matches are won while chasing the target, and 22 matches are won while defending the target. Now let's see what most teams prefer (batting or fielding) after winning the toss:

In [4]:
```python
toss = data["toss_decision"].value_counts()
label = toss.index
counts = toss.values
colors = ['skyblue','yellow']

fig = go.Figure(data=[go.Pie(labels=label, values=counts)])
fig.update_layout(title_text='Toss Decision')
fig.update_traces(hoverinfo='label+percent',
                  textinfo='value', textfont_size=30,
                  marker=dict(colors=colors,
                              line=dict(color='black', width=3)))
fig.show()
```

15

59

Thus, most captains choose to field after winning the toss. So far, in 43 games, captains have chosen to field first, and in just three games,the captains have chosen to bat first.Now let's see the top scorers of most IPL 2022 matches:

In [5]:
```python
figure = px.bar(data, x=data["top_scorer"],
                title="Top Scorers in IPL 2022")
figure.show()
```
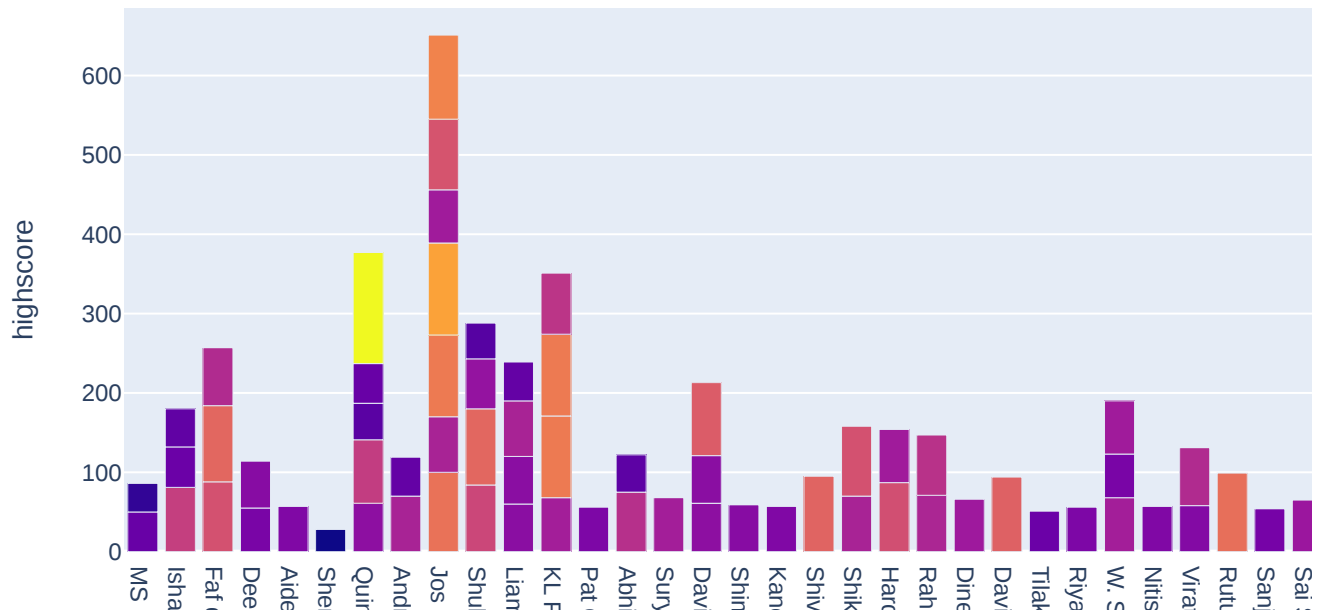
Currently, Jos Buttler has been a top scorer in 5 matches.He is looking in great touch. Let's analyze it deeply by including the runs scored by the top scorers:

In [6]:
```python
figure = px.bar(data, x=data["top_scorer"],
                y = data["highscore"],
                color = data["highscore"],
            title="Top Scorers in IPL 2022")
figure.show()
```
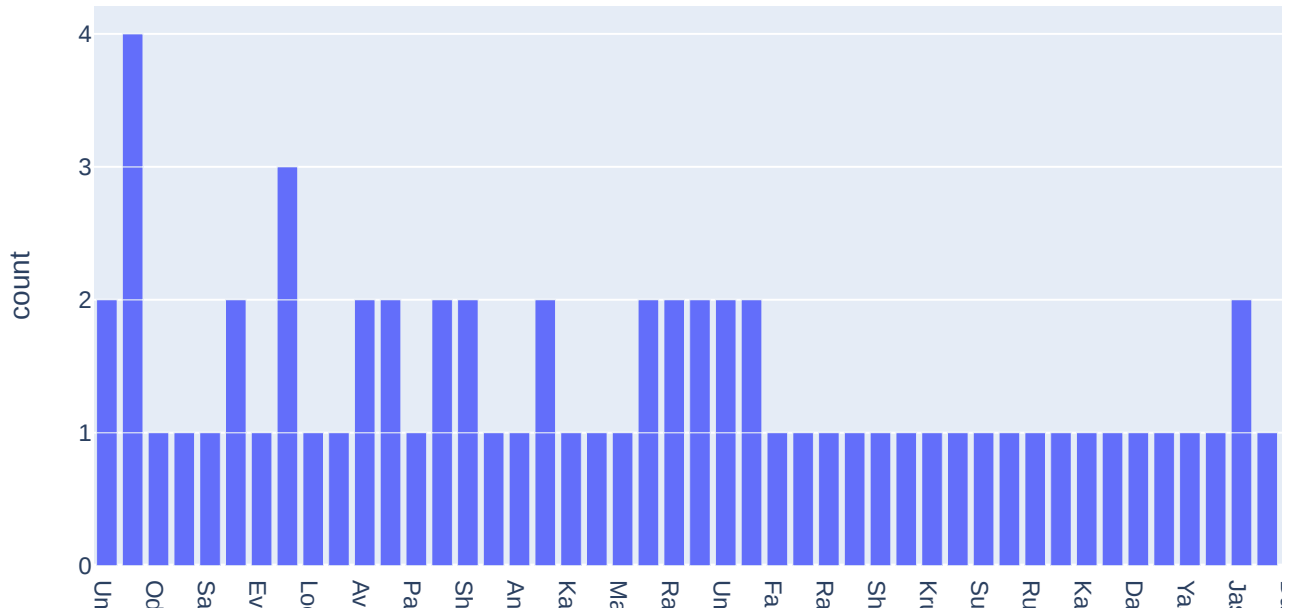
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Top Scorers in IPL 2022

So till now, Jos Buttler has scored three centuries, and KL Rahul has scored two centuries. Now let's have a look at the most player of the match awards till now in IPL 2022:

In [7]:
```python
figure = px.bar(data, x = data["player_of_the_match"],
                title="Most Player of the Match Awards")
figure.show()
```
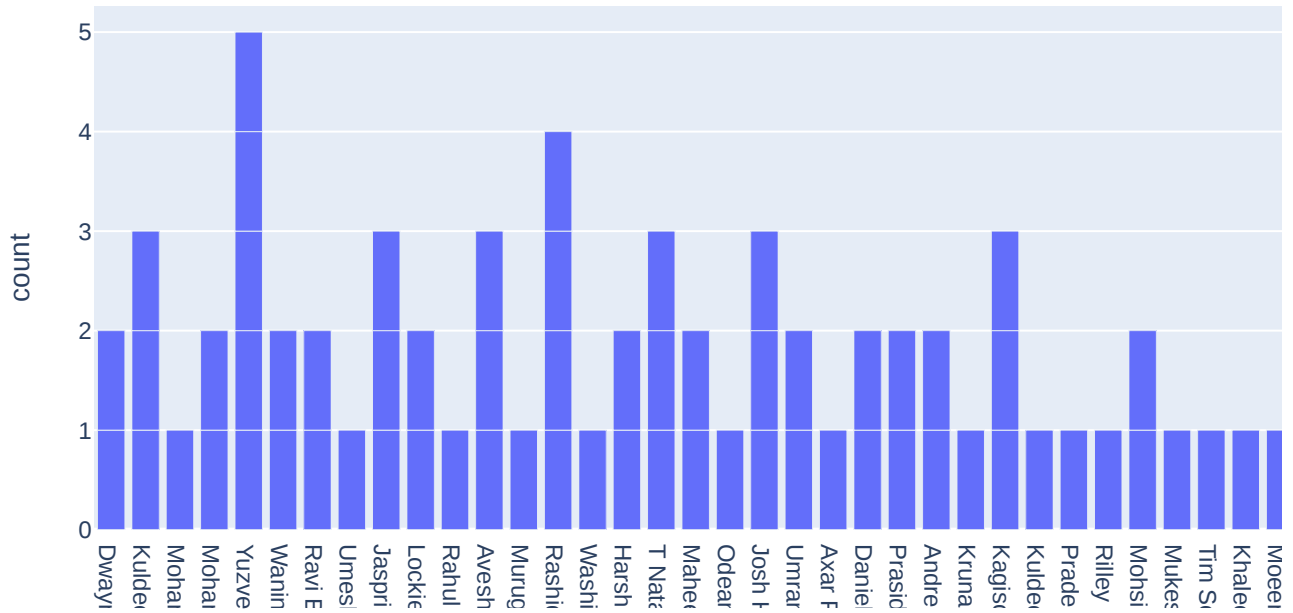
So Kuldeep Yadav is leading in the list of players of the match awards with four matches. It is a great tournament for Kuldeep Yadav this year. Now let's have a look at the bowlers with the best bowling figures in most of the matches:

In [8]:
```python
figure = px.bar(data, x=data["best_bowling"],
                title="Best Bowlers in IPL 2022")
figure.show()
```
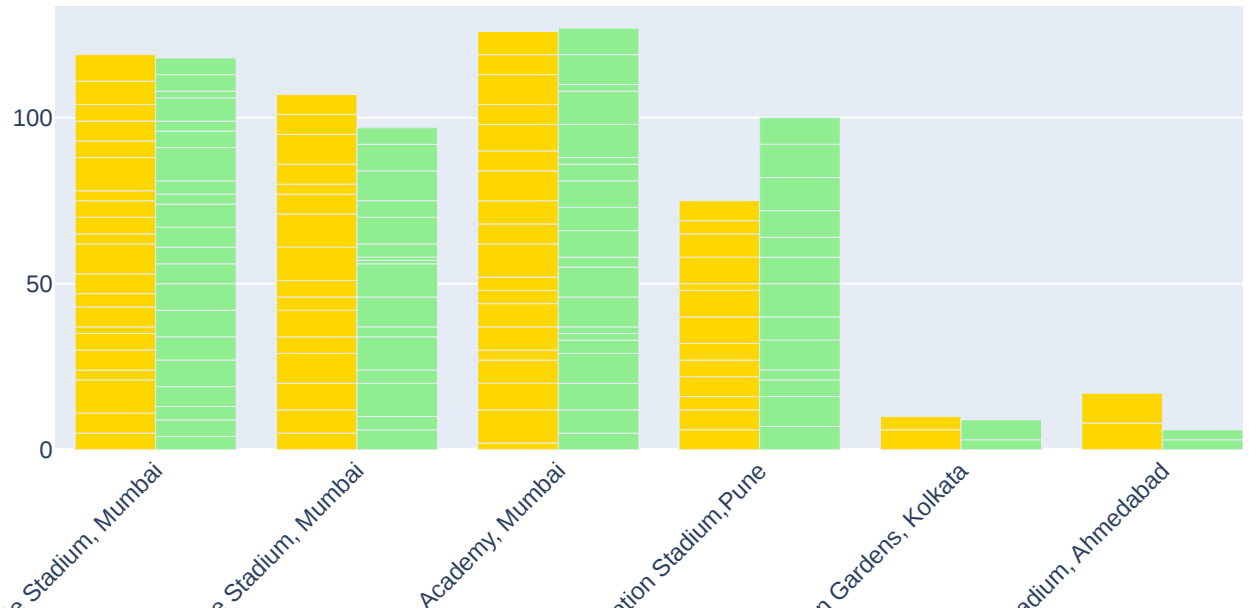
Best Bowlers in IPL 2022

You can see Yuzvendra Chahal having the best bowling figures in four matches. So this is a great tournament for Yuzvendra Chahal this year too.Now let's have a look at whether most of the wickets fall while setting the target or while chasing the target:

In [9]:
```python
figure = go.Figure()
figure.add_trace(go.Bar(
    x=data["venue"],
    y=data["first_ings_wkts"],
    name='First Innings Wickets',
    marker_color='gold'
))
figure.add_trace(go.Bar(
    x=data["venue"],
    y=data["second_ings_wkts"],
    name='Second Innings Wickets',
    marker_color='lightgreen'
))
figure.update_layout(barmode='group', xaxis_tickangle=-45)
figure.show()
```
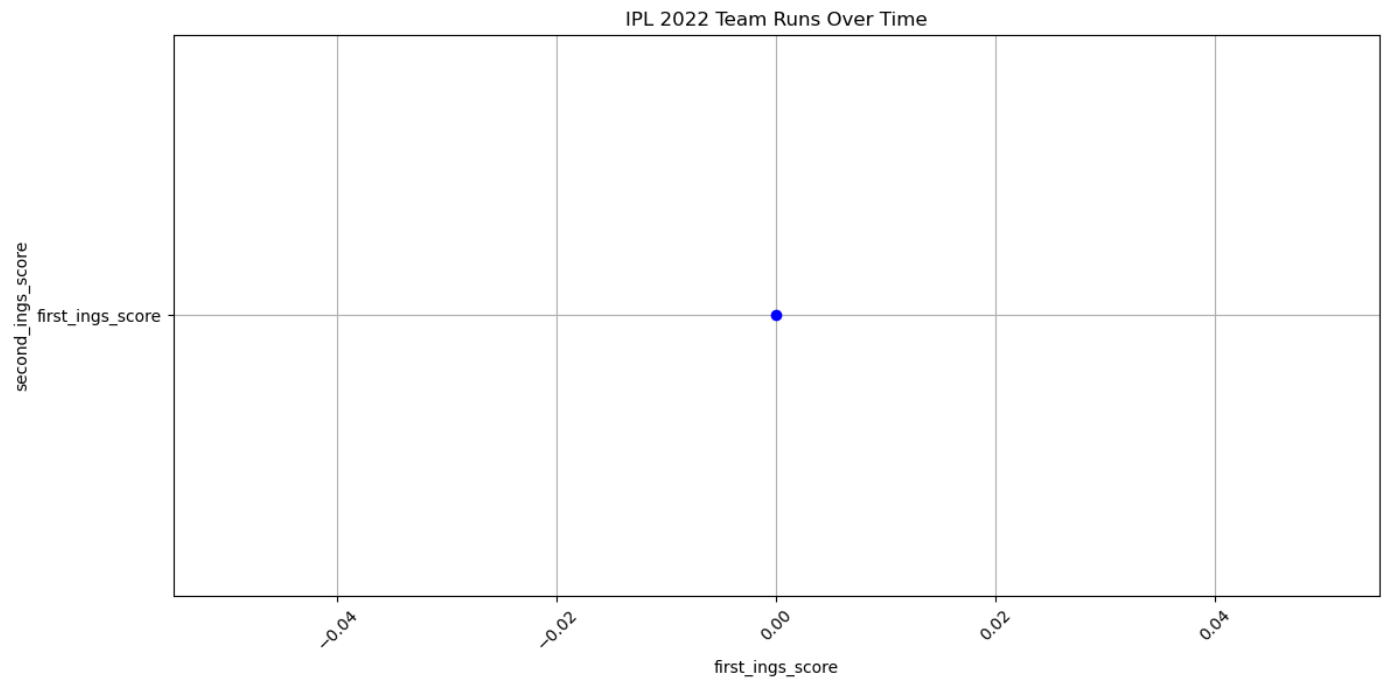
So in the Wankhede Stadium in Mumbai and MCA Stadium in Pune, most wickets fall while chasing the target. And in the other two stadiums, most wickets fall while setting the target. So this is how you can analyze and summarize the story of IPL 2022 using Python.

```
In [10]: import matplotlib.pyplot as plt
         import seaborn as sns
         import pandas as pd
```
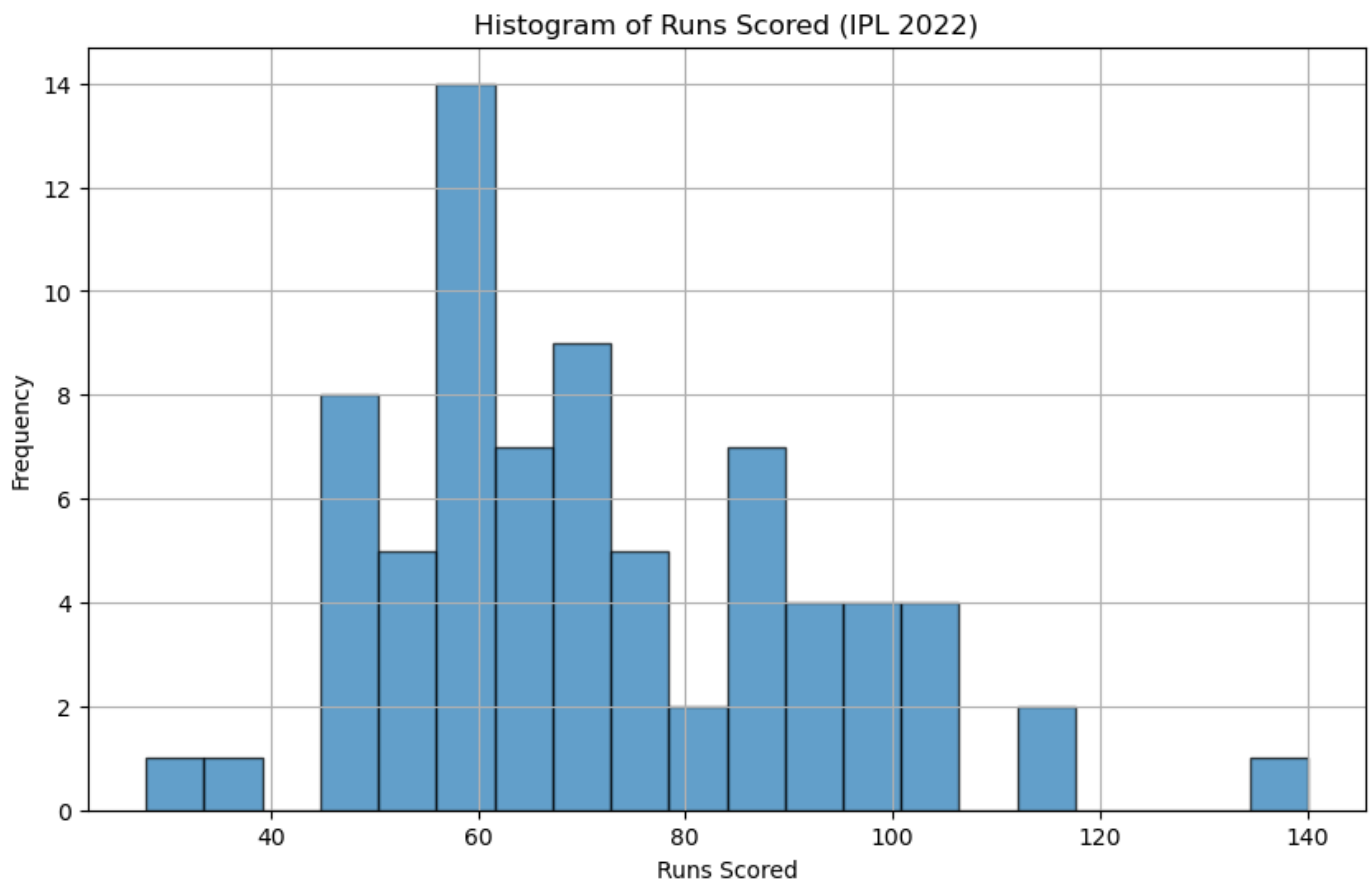
```
In [11]: plt.figure(figsize=(12, 6))
         plt.plot( 'first_ings_score', marker='o', linestyle='-', color='b')
         plt.title('IPL 2022 Team Runs Over Time')
         plt.xlabel('first_ings_score')
         plt.ylabel('second_ings_score')
         plt.xticks(rotation=45)
         plt.grid(True)

         plt.tight_layout()
         plt.show()
```

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```
In [12]: runs_scored = data['highscore']
```

```
In [13]: plt.figure(figsize=(10, 6))
         plt.hist(runs_scored, bins=20, edgecolor='k', alpha=0.7)  # bins determine the number of
         plt.title('Histogram of Runs Scored (IPL 2022)')
         plt.xlabel('Runs Scored')
         plt.ylabel('Frequency')
         plt.grid(True)
         plt.show()
```
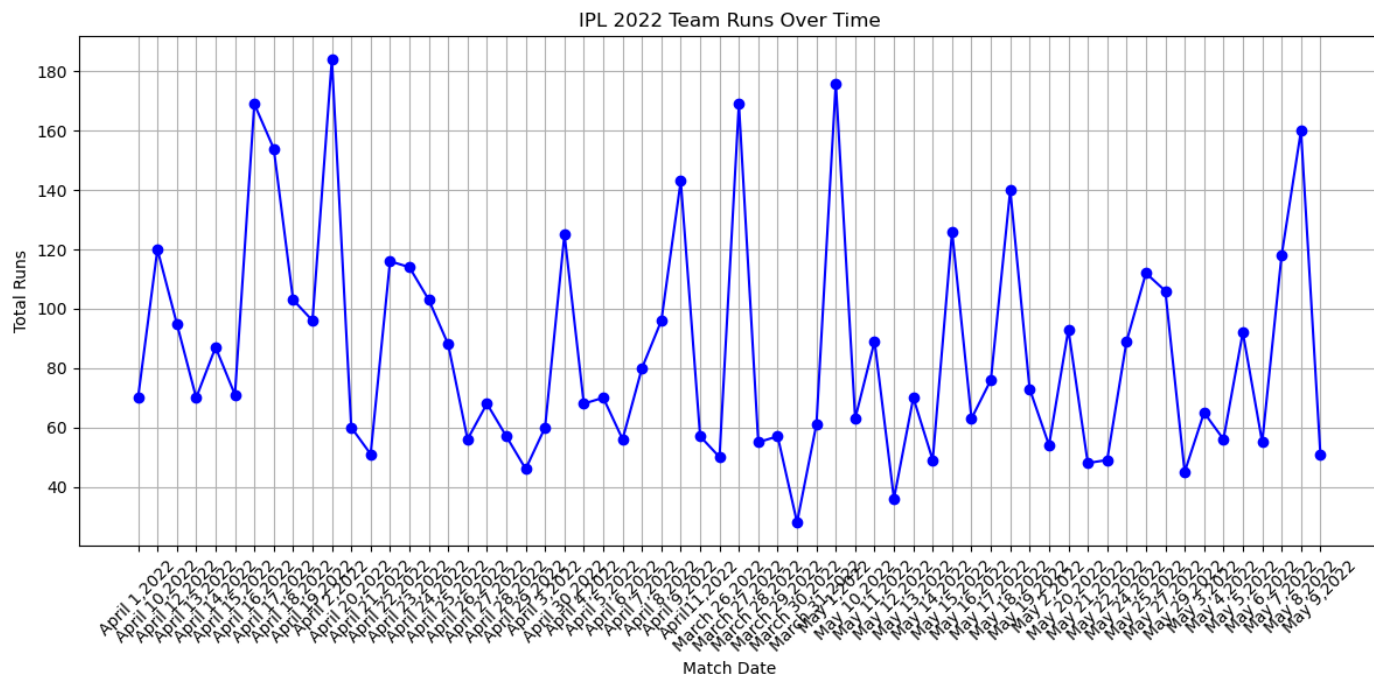


```
In [14]: team_runs = data.groupby('date')['highscore'].sum()
```

```python
In [15]: plt.figure(figsize=(12, 6))
         plt.plot(team_runs.index, team_runs.values, marker='o', linestyle='-', color='b')
         plt.title('IPL 2022 Team Runs Over Time')
         plt.xlabel('Match Date')
         plt.ylabel('Total Runs')
         plt.xticks(rotation=45)
         plt.grid(True)

         plt.tight_layout()
         plt.show()
```



```python
In [ ]:

In [ ]:
```

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