

T20 World Cup 2022 Analysis using Python

Every sports event generates a lot of data which we can use to analyze the performance of players, teams, and many highlights of the game. As the ICC Men's T20 world cup has just finished, it has generated a lot of data we can use to summarize the event. So, if you want to learn how to analyze a sports event like the t20 world cup, this article is for you. This article will take you through the task of T20 World Cup 2022 analysis using Python.

The dataset I am using for the T20 World Cup 2022 analysis is collected manually. You can download the dataset from here.

```
In [2]: import pandas as pd
import plotly.express as px
import plotly.graph_objects as go
import plotly.io as pio
pio.templates.default = "plotly_white"

data = pd.read_csv(r"C:\Users\shali\Downloads\t20-world-cup-22.csv")
print(data.head())

   venue      team1      team2  stage  toss winner \
0      SCG  New Zealand  Australia  Super 12  Australia
1  Optus Stadium  Afghanistan  England  Super 12  England
2  Blundstone Arena  Ireland  Sri Lanka  Super 12  Ireland
3      MCG  Pakistan  India  Super 12  India
4  Blundstone Arena  Bangladesh  Netherlands  Super 12  Netherlands

   toss decision  first innings score  first innings wickets \
0      Field      111.0      290.0      3.0
1      Field      112.0      112.0      10.0
2      Bat      128.0      8.0
3      Field      159.0      8.0
4      Field      144.0      8.0

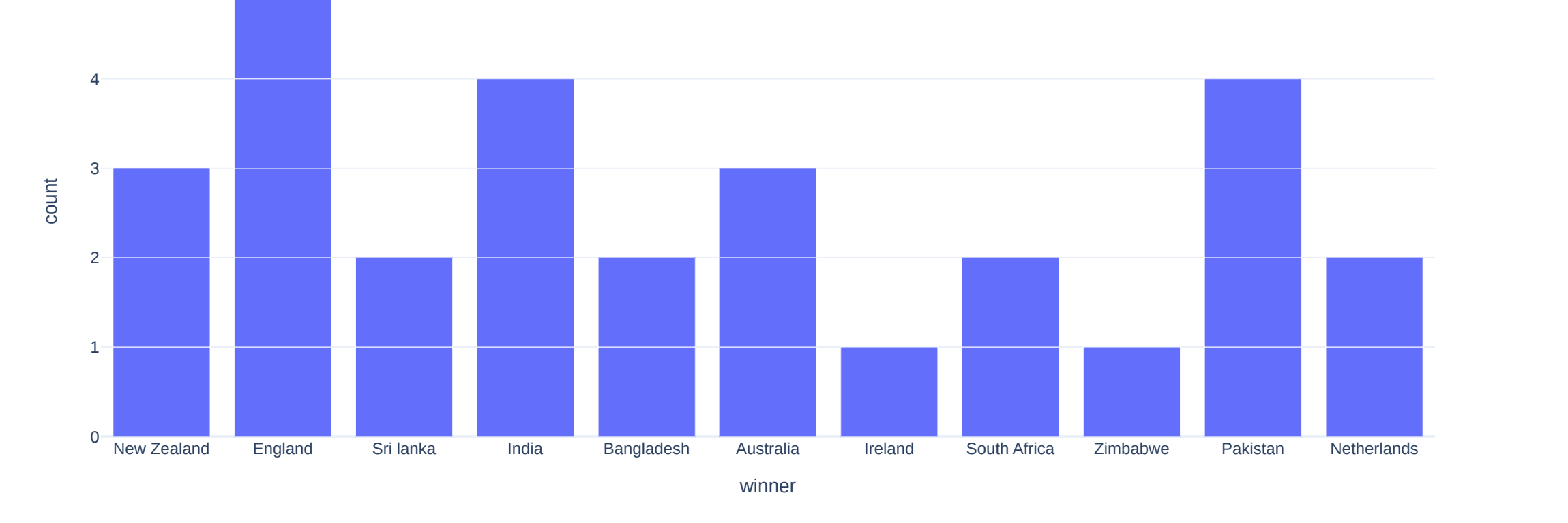
   second innings score  second innings wickets  winner  won by \
0      111.0      10.0  New Zealand  Runs
1      113.0      5.0  England  Wickets
2      133.0      1.0  Sri Lanka  Wickets
3      160.0      6.0  India  Wickets
4      135.0      10.0  Bangladesh  Runs

   player of the match  top scorer  highest score  best bowler \
0  Devon Conway  Devon Conway  92.0  Tim Southee
1  Sam Curran  Ibrahim Zadran  32.0  Sam Curran
2  Kusal Mendis  Kusal Mendis  68.0  Maheesh Theekshana
3  Virat Kohli  Virat Kohli  82.0  Hardik Pandya
4  Taskin Ahmed  Colin Ackermann  62.0  Taskin Ahmed

   best bowling figure
0      3-6
1      5-10
2      2-19
3      3-30
4      4-25
```

Now let's look at the number of matches won by each team in the world cup:

```
In [4]: figure = px.bar(data,
                      x=data["winner"],
                      title="Number of Matches Won by teams in t20 World Cup 2022")
figure.show()
```

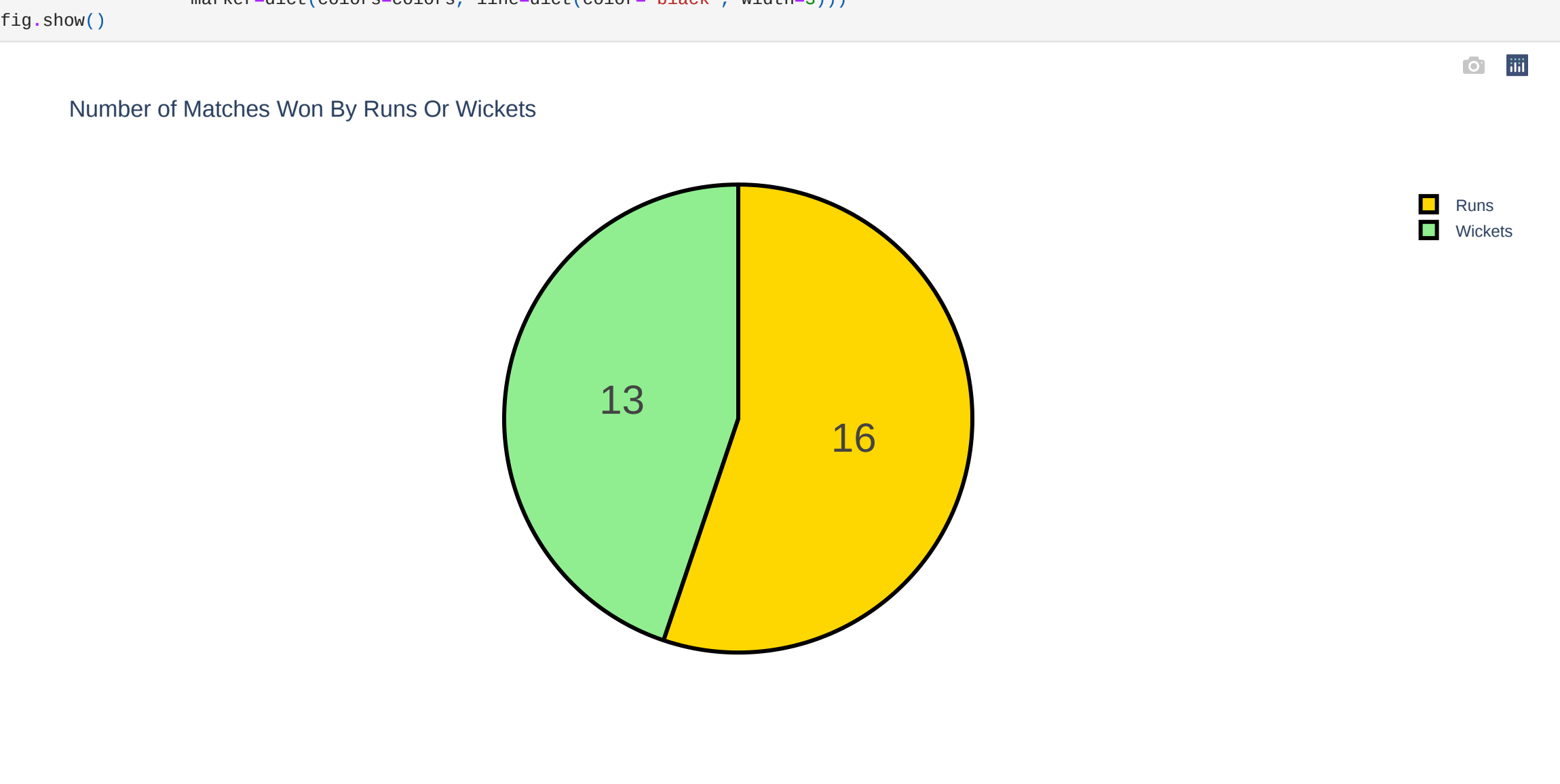


As England won the t20 world cup 2022, England won five matches. And Both Pakistan and India won 4 matches.

Now let's have a look at the number of matches won by batting first or second in the t20 world cup 2022:

```
In [5]: won_by = data["won by"].value_counts()
label = won_by.index
counts = won_by.values
colors = ['gold', 'lightgreen']

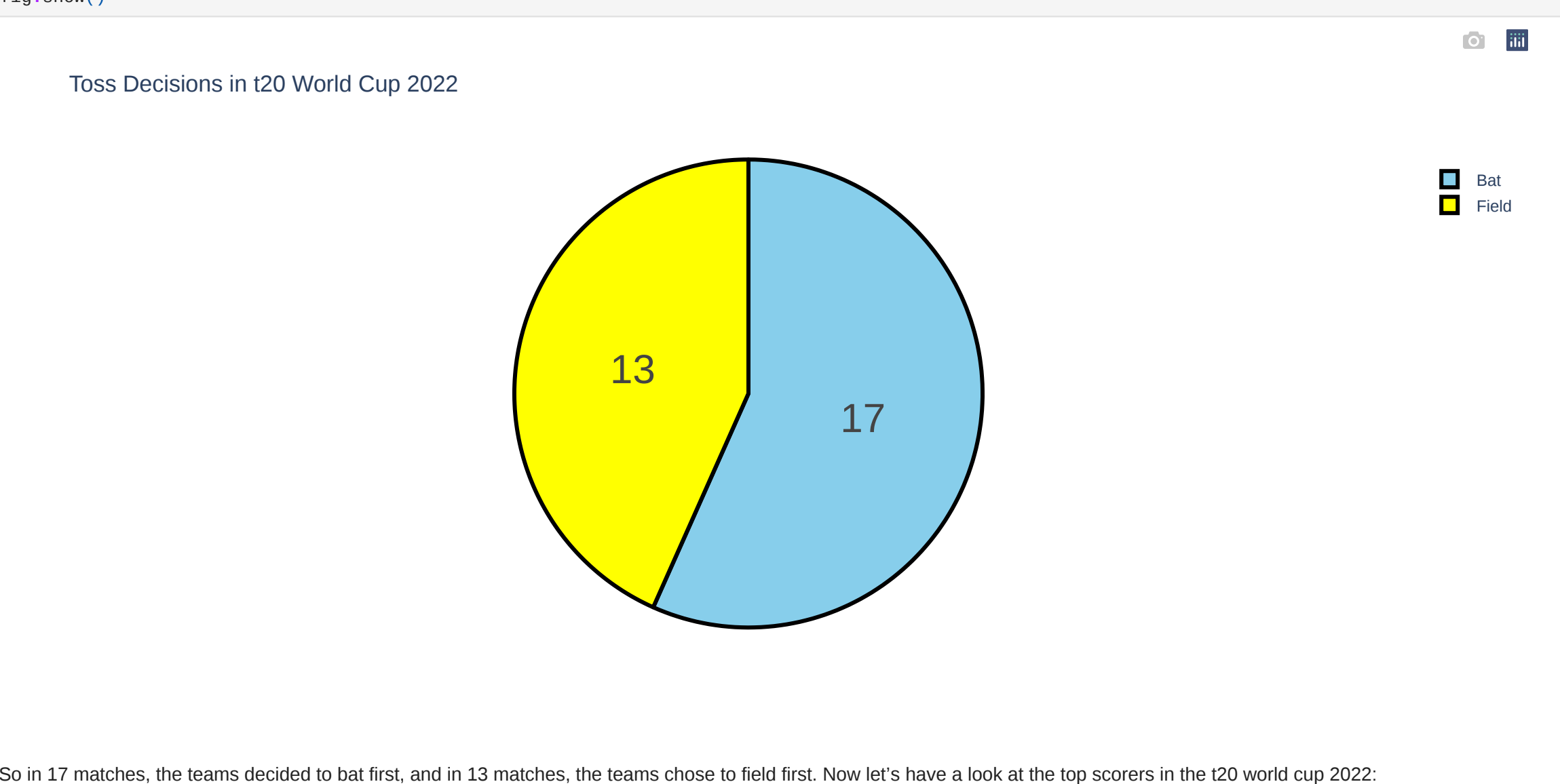
fig = go.Figure(data=[go.Pie(labels=label, values=counts)])
fig.update_layout(title_text="Number of Matches Won By Runs Or Wickets")
fig.update_traces(hoverinfo="label+percent", textinfo="value", textfont_size=30,
                  marker=dict(colors=colors, line=dict(color="black", width=3)))
fig.show()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



So in the t20 world cup 2022, 16 matches were won by batting first, and 13 matches were won by chasing. Now, let's have a look at the toss decisions by teams in the world cup:

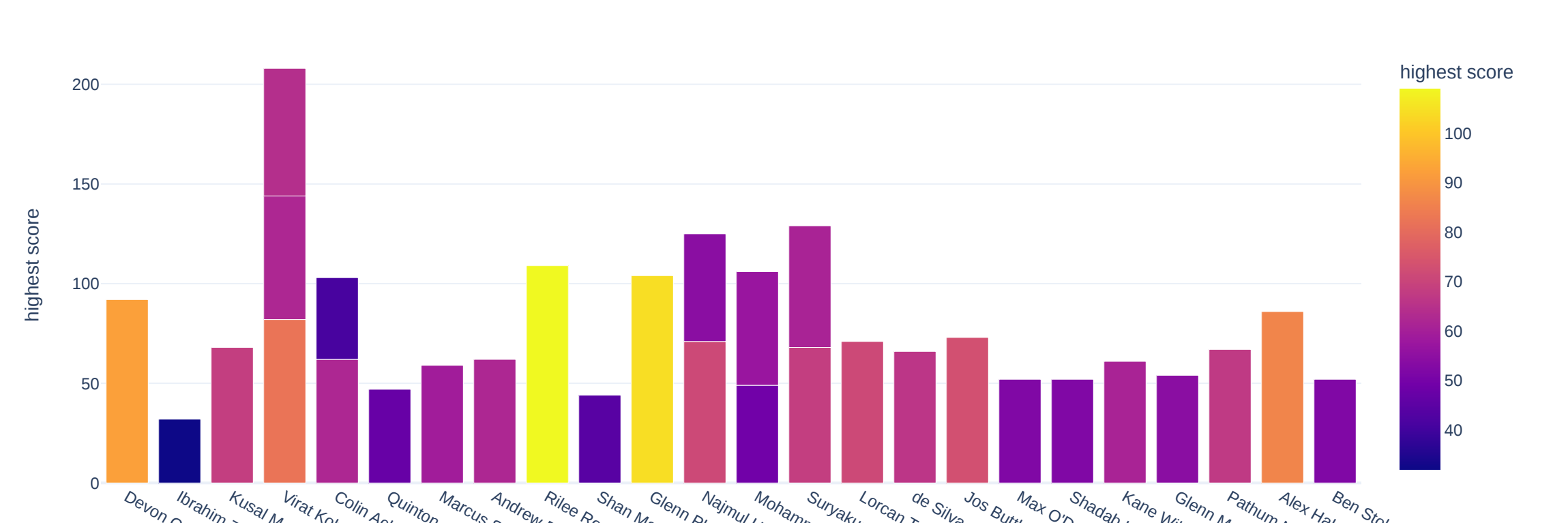
```
In [6]: toss = data["toss decision"].value_counts()
label = toss.index
counts = toss.values
colors = ['skyblue', 'yellow']

fig = go.Figure(data=[go.Pie(labels=label, values=counts)])
fig.update_layout(title_text="Toss Decisions in t20 World Cup 2022")
fig.update_traces(hoverinfo="label+percent", textinfo="value", textfont_size=30,
                  marker=dict(colors=colors, line=dict(color="black", width=3)))
fig.show()
```



So in 17 matches, the teams decided to bat first, and in 13 matches, the teams chose to field first. Now let's have a look at the top scorers in the t20 world cup 2022:

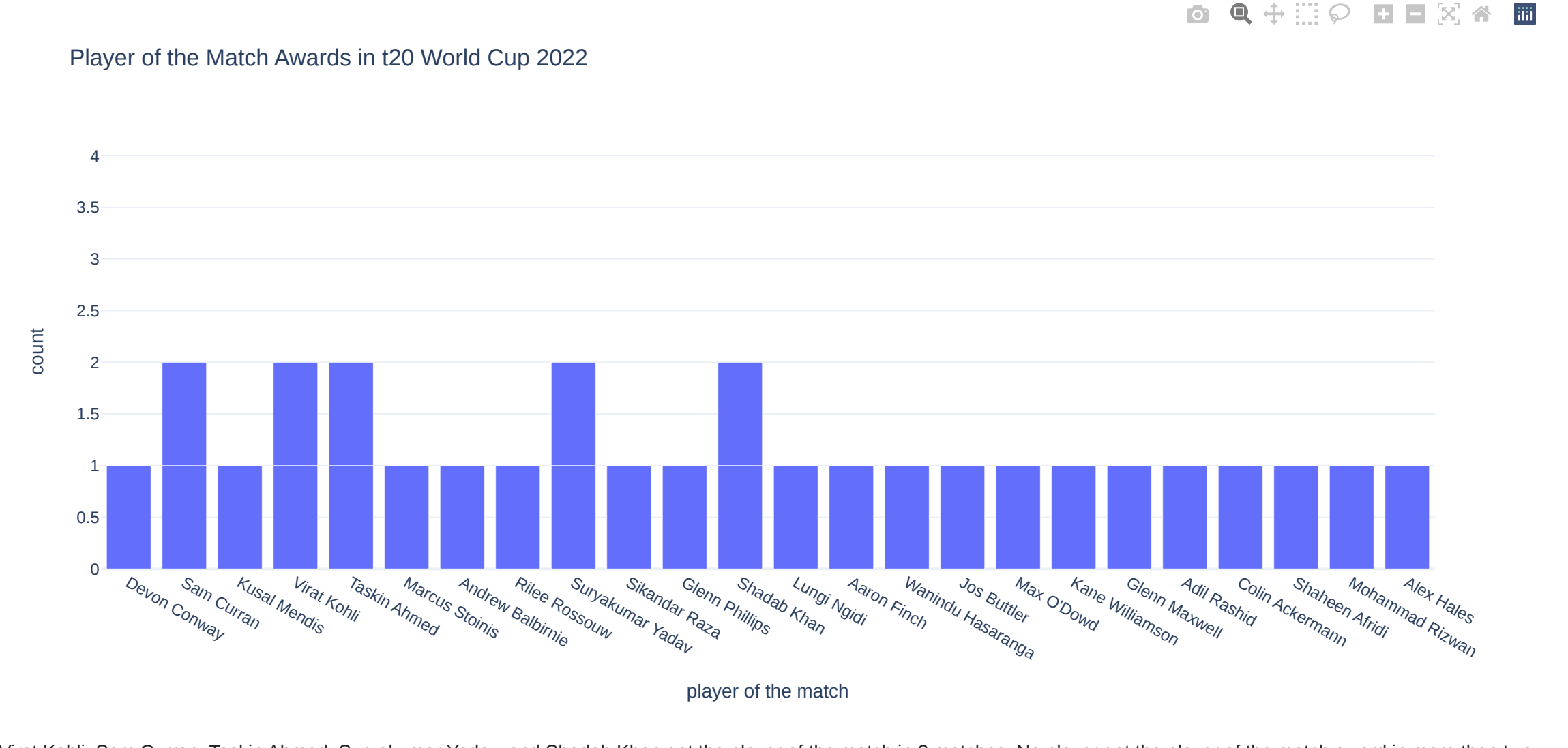
```
In [7]: figure = px.bar(data,
                      x=data["top scorer"],
                      y = data["highest score"],
                      color = data["highest score"],
                      title="Top Scorers in t20 World Cup 2022")
figure.show()
```



So, Virat Kohli scored the highest in 3 matches. Undoubtedly, he was the best batsman in the t20 world cup 2022.

Now let's have a look at the number of player of the match awards in the world cup:

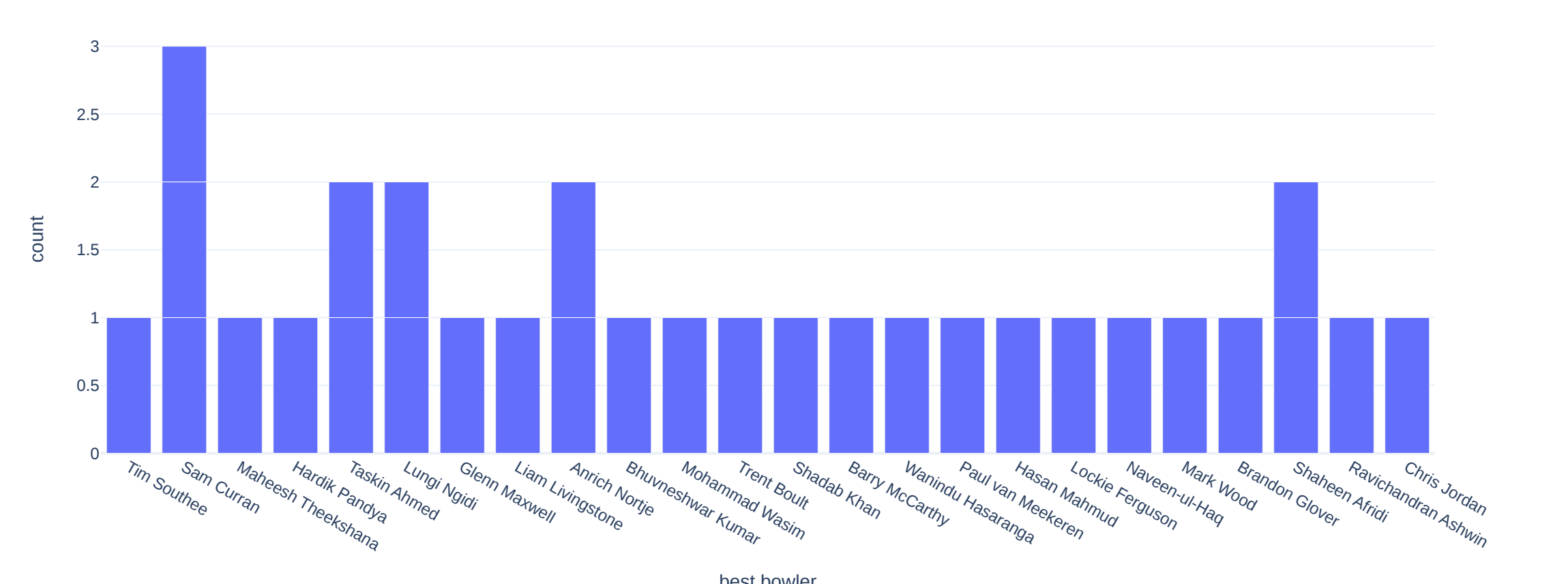
```
In [8]: figure = px.bar(data,
                      x = data["player of the match"],
                      title="Player of the Match Awards in t20 World Cup 2022")
figure.show()
```



Virat Kohli, Sam Curran, Taskin Ahmed, Suryakumar Yadav, and Shadab Khan got the player of the match in 2 matches. No player got the player of the match award in more than two matches.

Now let's have a look at the bowlers with the best bowling figures at the end of the matches:

```
In [9]: figure = px.bar(data,
                      x=data["best bowler"],
                      title="Best Bowlers in t20 World Cup 2022")
figure.show()
```



Sam Curran was the only best bowler in 3 matches. Undoubtedly, he deserved to be the player of the tournament.

Now let's compare the runs scored in the first innings and second innings in every stadium of the t20 world cup 2022:

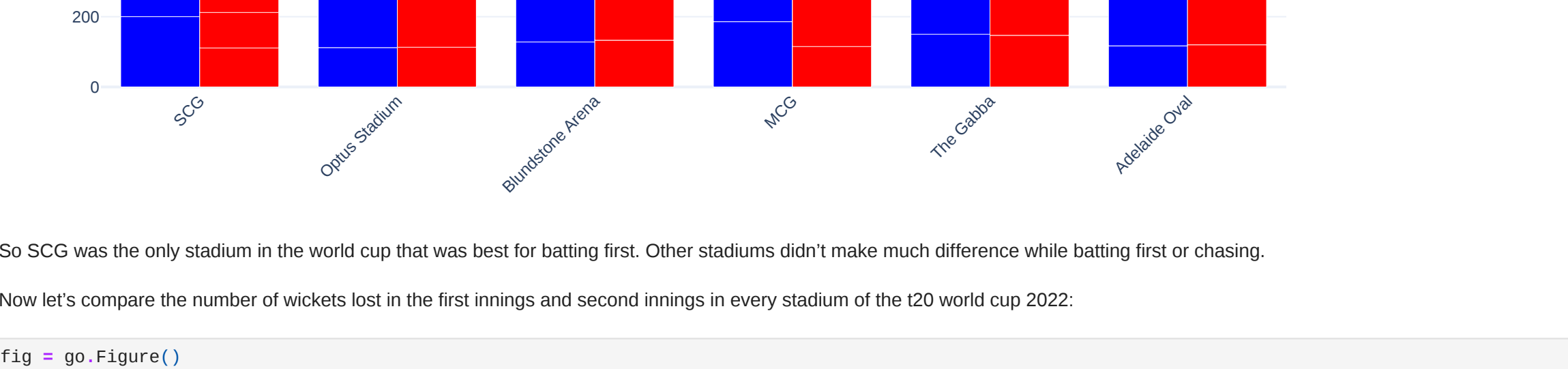
```
In [10]: fig = go.Figure()
fig.add_trace(go.Bar(
    x=data["venue"],
    y=data["first innings score"],
    name="First Innings Runs",
    marker_color='blue'
))
fig.add_trace(go.Bar(
    x=data["venue"],
    y=data["second innings score"],
    name="Second Innings Runs",
    marker_color='red'
))
fig.update_layout(barmode='group',
                  xaxis_tickangle=-45,
                  title="Best Stadiums to Bat First or Chase")
fig.show()
```



So SCG was the only stadium in the world cup that was best for batting first. Other stadiums didn't make much difference while batting first or chasing.

Now let's compare the number of wickets lost in the first innings and second innings in every stadium of the t20 world cup 2022:

```
In [11]: fig = go.Figure()
fig.add_trace(go.Bar(
    x=data["venue"],
    y=data["first innings wickets"],
    name="First Innings Wickets",
    marker_color='blue'
))
fig.add_trace(go.Bar(
    x=data["venue"],
    y=data["second innings wickets"],
    name="Second Innings Wickets",
    marker_color='red'
))
fig.update_layout(barmode='group',
                  xaxis_tickangle=-45,
                  title="Best Stadiums to Bowl First or Defend")
fig.show()
```



SCG was the best stadium to bowl while defending the target. While the Optus Stadium was the best stadium to bowl first.

Summary

So some highlights of the t20 world cup 2022 we found from our analysis are:

- England won the most number of matches
- Virat Kohli scored highest in the most number of matches
- Sam Curran was the best bowler in the most number of matches
- More teams won by batting first
- More teams decided to bat first
- SCG was the best stadium to bat first
- SCG was the best stadium to defend the target in the World Cup
- The Optus Stadium was the best stadium to bowl first

```
In [ ]:
```