ipl data analysis project

In [3]:

```python
import pandas as ankit_jha
import plotly.express as px
import plotly.graph_objects as go
```

In [5]:

```python
data = ankit_jha.read_csv("matches.csv")
```

In [6]:

```python
data
```

Out[6]:

	id	season	city	date	match_type	player_of_match	venue	team1
0	335982	2007/08	Bangalore	2008-04-18	League	BB McCullum	M Chinnaswamy Stadium	Royal Challengers Bangalore
1	335983	2007/08	Chandigarh	2008-04-19	League	MEK Hussey	Punjab Cricket Association Stadium, Mohali	Kings XI Punjab
2	335984	2007/08	Delhi	2008-04-19	League	MF Maharoof	Feroz Shah Kotla	Delhi Daredevils
3	335985	2007/08	Mumbai	2008-04-20	League	MV Boucher	Wankhede Stadium	Mumbai Indians
4	335986	2007/08	Kolkata	2008-04-20	League	DJ Hussey	Eden Gardens	Kolkata Knight Riders
...	...	...	...	...	...	...	...	...
1090	1426307	2024	Hyderabad	2024-05-19	League	Abhishek Sharma	Rajiv Gandhi International Stadium, Uppal, Hyd...	Punjab Kings
1091	1426309	2024	Ahmedabad	2024-05-21	Qualifier 1	MA Starc	Narendra Modi Stadium, Ahmedabad	Sunrisers Hyderabad
1092	1426310	2024	Ahmedabad	2024-05-22	Eliminator	R Ashwin	Narendra Modi Stadium, Ahmedabad	Royal Challengers Bengaluru
1093	1426311	2024	Chennai	2024-05-24	Qualifier 2	Shahbaz Ahmed	MA Chidambaram Stadium, Chepauk, Chennai	Sunrisers Hyderabad
1094	1426312	2024	Chennai	2024-05-26	Final	MA Starc	MA Chidambaram	Sunrisers Hyderabad

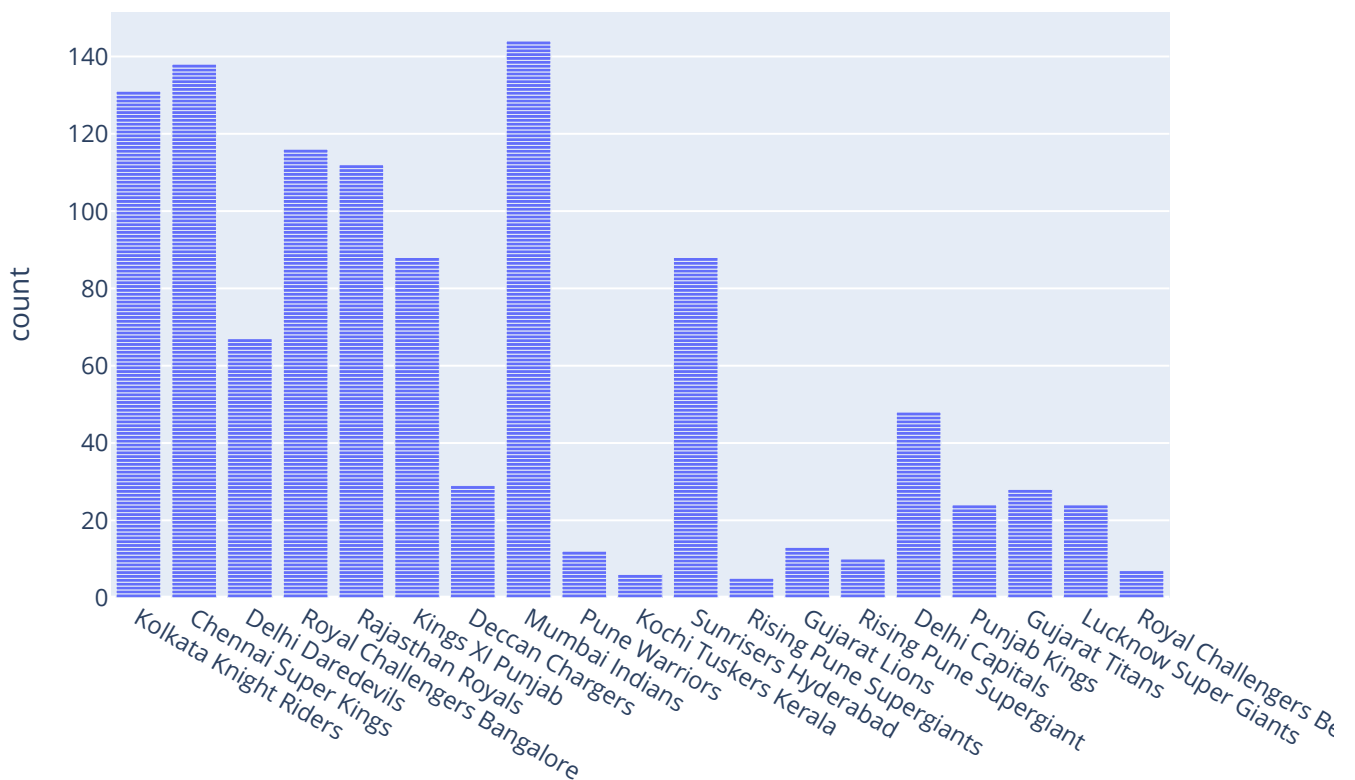| id	season	city	date	match_type	player_of_match	venue	team1
						Stadium, Chepauk, Chennai	

1095 rows × 20 columns

number of matches won

In [12]:

```python
figure = px.bar(data,x = data["winner"], title = "Number of Matches won in ipl 2022")
figure.show()
```
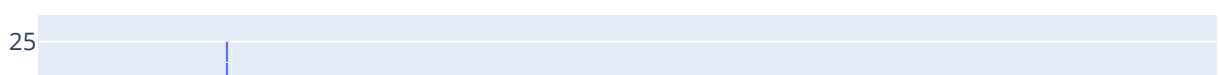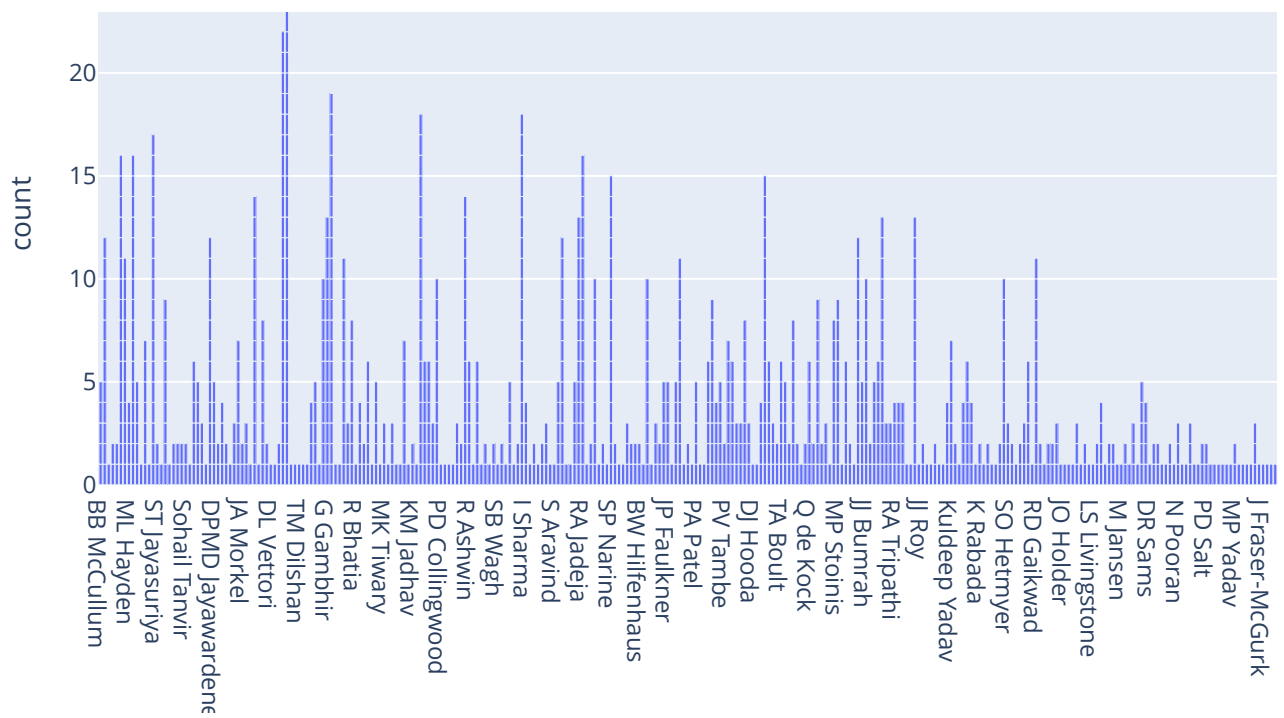
Number of Matches won in ipl 2022

In [28]:

```python
figure = px.bar(data, x= data["player_of_match"],title = "Best player of the match in ip
figure.show()
```

Best player of the match in ipl

```python
figure = px.bar(data, x= data["winner"],
                y = data["season"],
                color = data["winner"], title = "ipl winner")
figure.show()
```
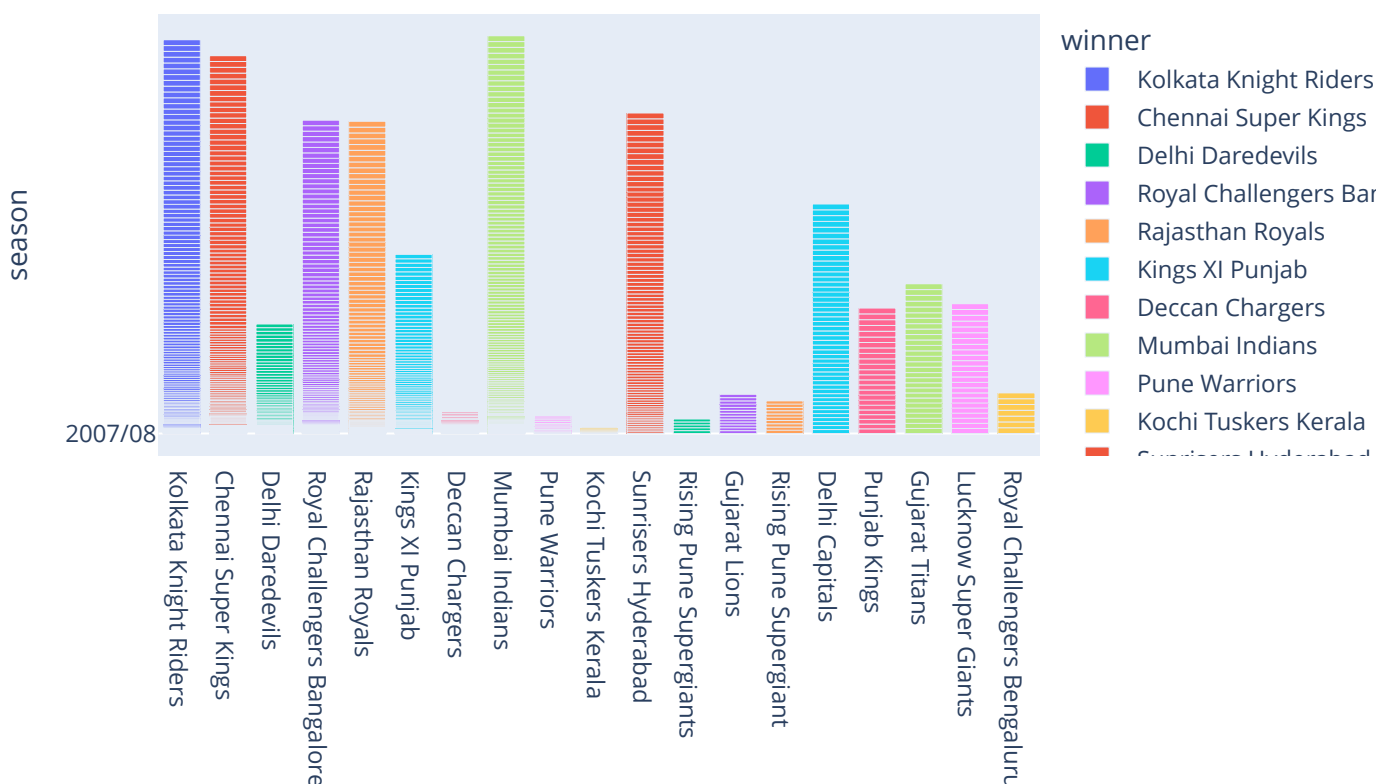
ipl winner

winner
- Kolkata Knight Riders
- Chennai Super Kings
- Delhi Daredevils
- Royal Challengers Ban
- Rajasthan Royals
- Kings XI Punjab
- Deccan Chargers
- Mumbai Indians
- Pune Warriors
- Kochi Tuskers Kerala
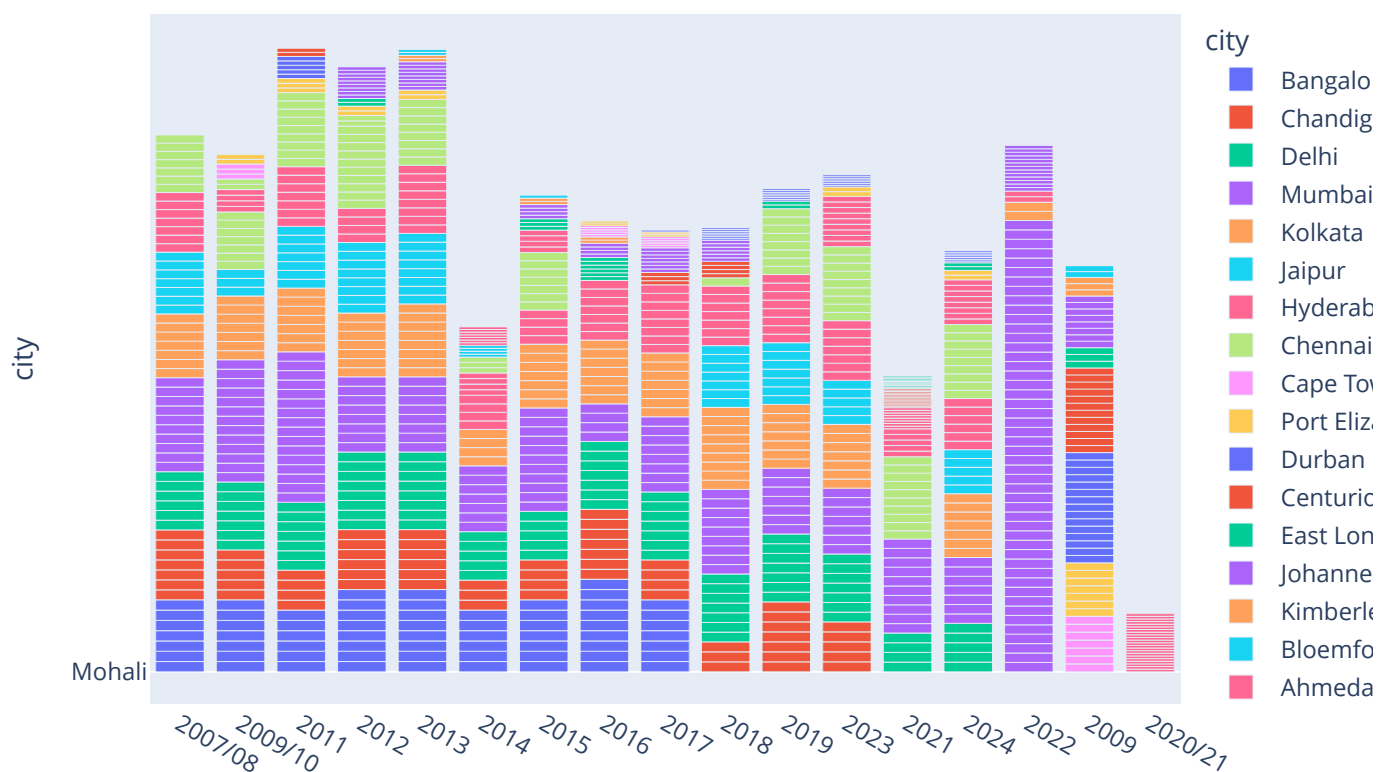- Sunrisers Hyderabad

```python
figure = px.bar(data, x= data["season"],
                y = data["city"],
                color = data["city"], title = "city")
figure.show()
```

city

```python
figure = px.bar(data, x= data["toss_winner"],
                y = data["season"],
                color = data["winner"], title = "toss_winner")
figure.show()
```

toss_winner

s

Kings XI Punjab
Deccan Chargers
Mumbai Indians
Pune Warriors
Kochi Tuskers Kerala

2007/08

Royal Challengers Bangalore
Deccan Chargers
Kolkata Knight Riders
Kings XI Punjab
Chennai Super Kings
Rajasthan Royals
Mumbai Indians
Delhi Daredevils
Sunrisers Hyderabad
Rising Pune Supergiants
Delhi Capitals
Gujarat Titans
Punjab Kings
Royal Challengers Bengaluru
Lucknow Super Giants
Pune Warriors
Rising Pune Supergiant
Kochi Tuskers Kerala
Gujarat Lions

In [41]:

```python
figure = px.histogram(data, x= data["match_type"],
                y = data["city"],
                color = data["city"], title = "city")
figure.show()
```

city

1

0.5

sum of city   0

−0.5

−1

League
Elimination Final
Final
Qualifier 1
Eliminator
Qualifier 2
Semi Final
3rd Place Play-Off

city
Bangalo
Chandig
Delhi
Mumbai
Kolkata
Jaipur
Hyderab
Chennai
Cape Tov
Port Eliza
Durban
Centuric
East Lon
Johanne
Kimberle
Bloemfo

In [42]:

```
figure = px.bar(data, x= data["venue"],
                y = data["season"],
                color = data["winner"], title = "toss_winner")
figure.show()
```

toss_winner

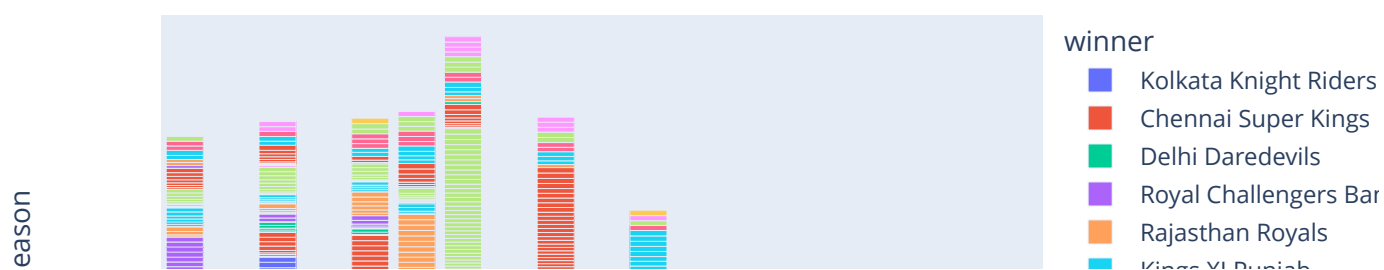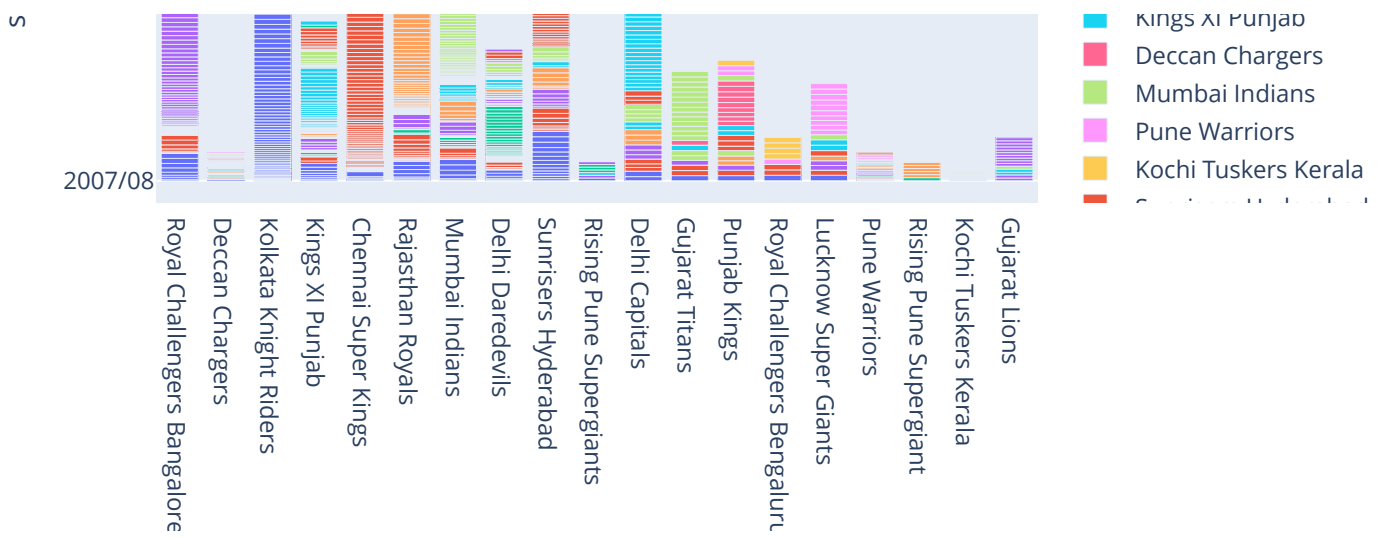In [43]:

```
figure = px.bar(data, x= data["toss_winner"],
                y = data["season"],
                color = data["winner"], title = "toss_winner")
figure.show()
```
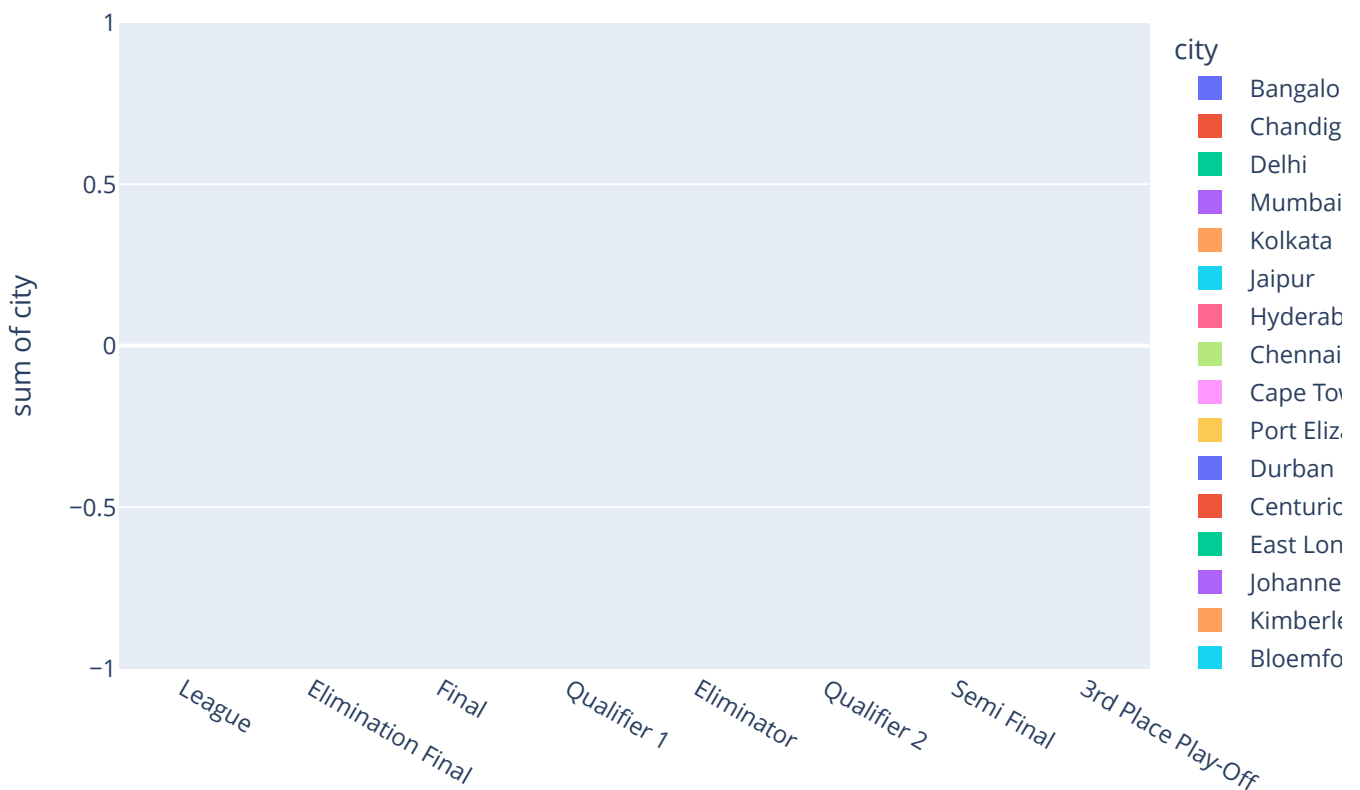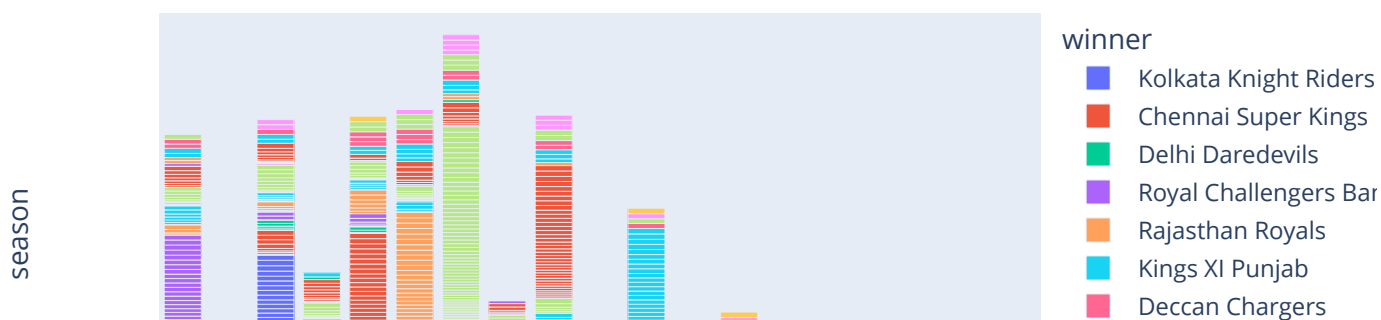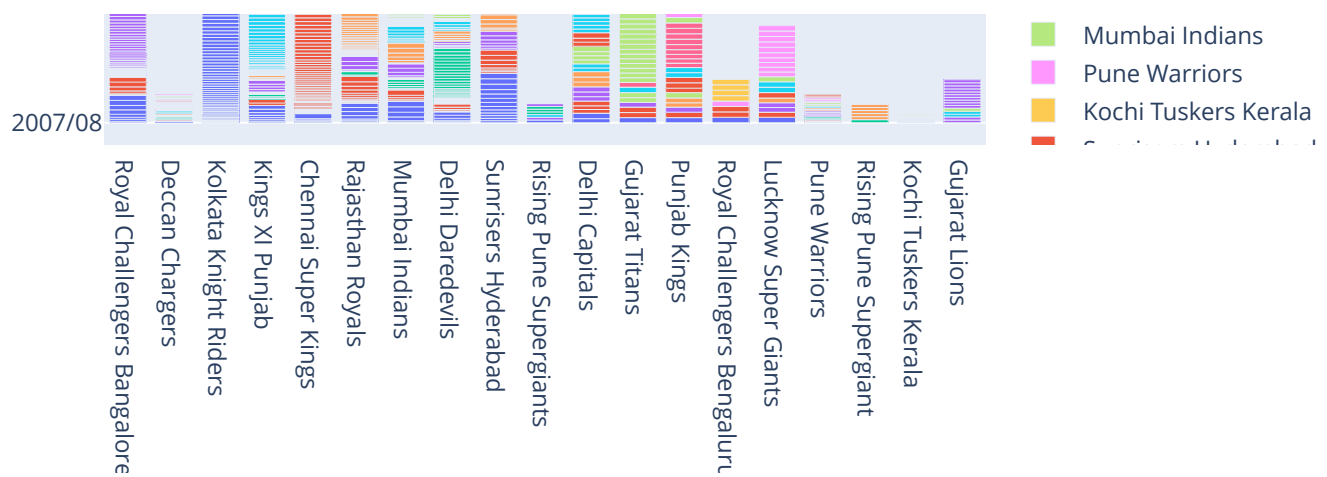
toss_winner

2007/08

Royal Challengers Bangalore
Deccan Chargers
Kolkata Knight Riders
Kings XI Punjab
Chennai Super Kings
Rajasthan Royals
Mumbai Indians
Delhi Daredevils
Sunrisers Hyderabad
Rising Pune Supergiants
Delhi Capitals
Gujarat Titans
Punjab Kings
Royal Challengers Bengaluru
Lucknow Super Giants
Pune Warriors
Rising Pune Supergiant
Kochi Tuskers Kerala
Gujarat Lions

In [46]:

```python
# Count number of wins for each team
winner_counts = data['winner'].value_counts().reset_index()
winner_counts.columns = ['winner', 'wins']

# Create Bar Graph
figure = px.bar(
    winner_counts,
    x='winner',
    y='wins',
    title='Number of Matches Won in IPL',
    text='wins'
)

figure.show()
```
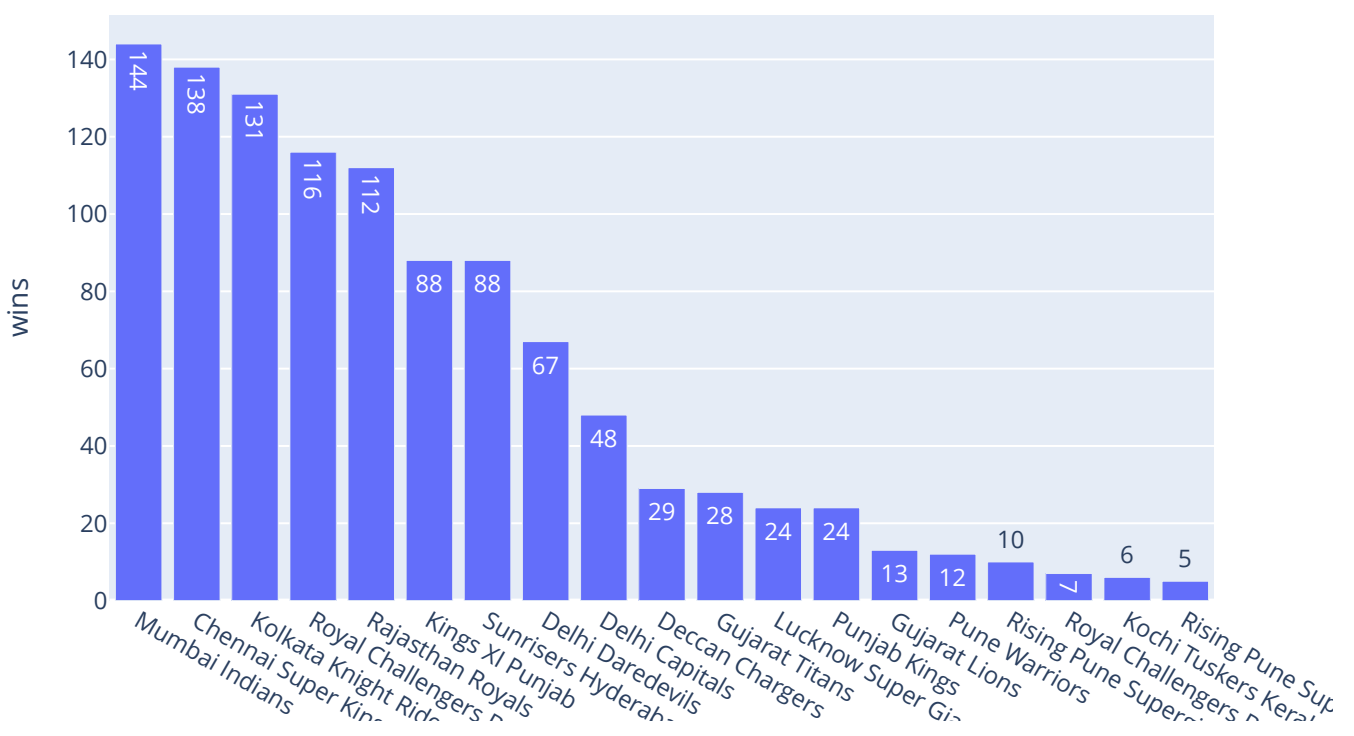
Number of Matches Won in IPL

In [47]:

```python
# Count total wins for each team
winner_counts = data['winner'].value_counts().reset_index()
winner_counts.columns = ['winner', 'wins']

# Create Pie Chart
figure = px.pie(
    winner_counts,
    names='winner',
    values='wins',
    title='IPL Winners Distribution',
    hole=0  # hole=0 means normal pie, hole=0.4 means donut chart
)

figure.show()
```
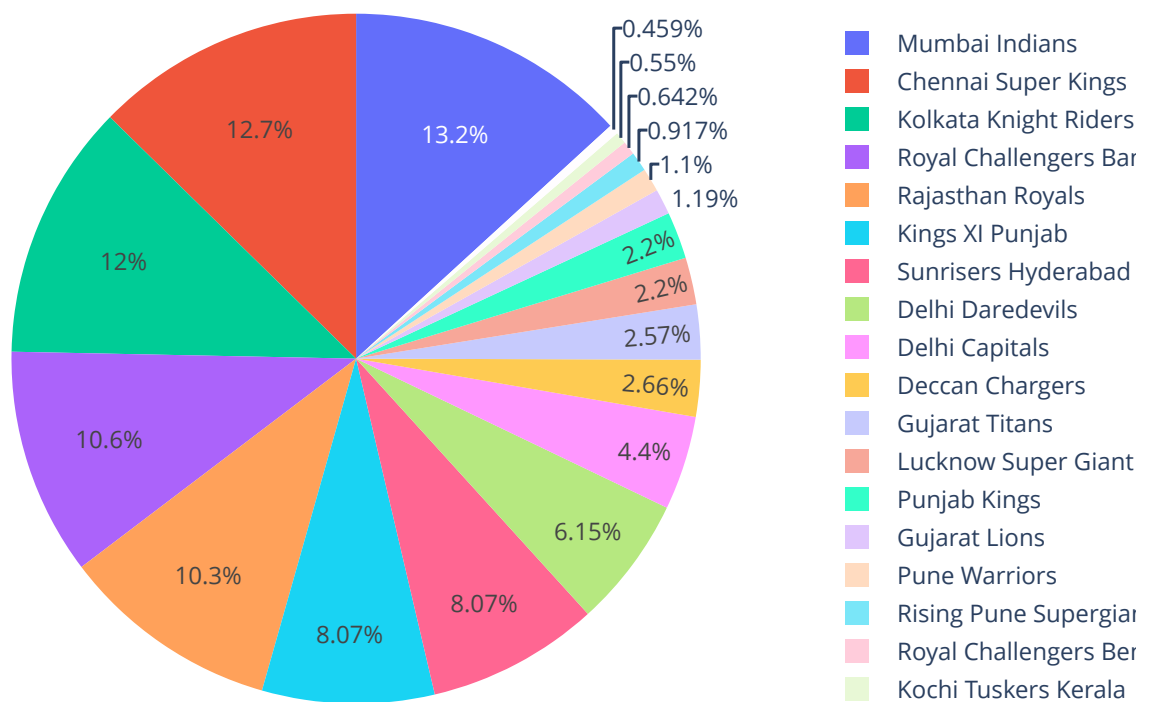
📷 ▥

IPL Winners Distribution

Legend:
- Mumbai Indians
- Chennai Super Kings
- Kolkata Knight Riders
- Royal Challengers Bar
- Rajasthan Royals
- Kings XI Punjab
- Sunrisers Hyderabad
- Delhi Daredevils
- Delhi Capitals
- Deccan Chargers
- Gujarat Titans
- Lucknow Super Giant
- Punjab Kings
- Gujarat Lions
- Pune Warriors
- Rising Pune Supergiar
- Royal Challengers Ber
- Kochi Tuskers Kerala

Pie values: 13.2%, 12.7%, 12%, 10.6%, 10.3%, 8.07%, 8.07%, 6.15%, 4.4%, 2.66%, 2.57%, 2.2%, 2.2%, 1.19%, 1.1%, 0.917%, 0.642%, 0.55%, 0.459%

In [48]:

```python
figure = px.pie(
    winner_counts,
    names='winner',
    values='wins',
    title='IPL Winners Distribution',
```

```
    hole=0.4
)
figure.show()
```

📷 ⬛

IPL Winners Distribution

- Mumbai Indians
- Chennai Super Kings
- Kolkata Knight Riders
- Royal Challengers Bar
- Rajasthan Royals
- Kings XI Punjab
- Sunrisers Hyderabad
- Delhi Daredevils
- Delhi Capitals
- Deccan Chargers
- Gujarat Titans
- Lucknow Super Giant
- Punjab Kings
- Gujarat Lions
- Pune Warriors
- Rising Pune Supergiar
- Royal Challengers Ber
- Kochi Tuskers Kerala

In [49]:

```python
winner_counts = data['winner'].value_counts().reset_index()
winner_counts.columns = ['winner', 'wins']

fig = px.pie(
    winner_counts,
    names='winner',
    values='wins',
    hole=0.45,
    title='IPL Winners Donut Chart',
)

fig.update_traces(
    textposition='inside',
    textinfo='percent+label',
    pull=[0.05 for _ in range(len(winner_counts))]  # stylish pop-out effect
)

fig.update_layout(
    title_font_size=24,
    showlegend=True
)
```
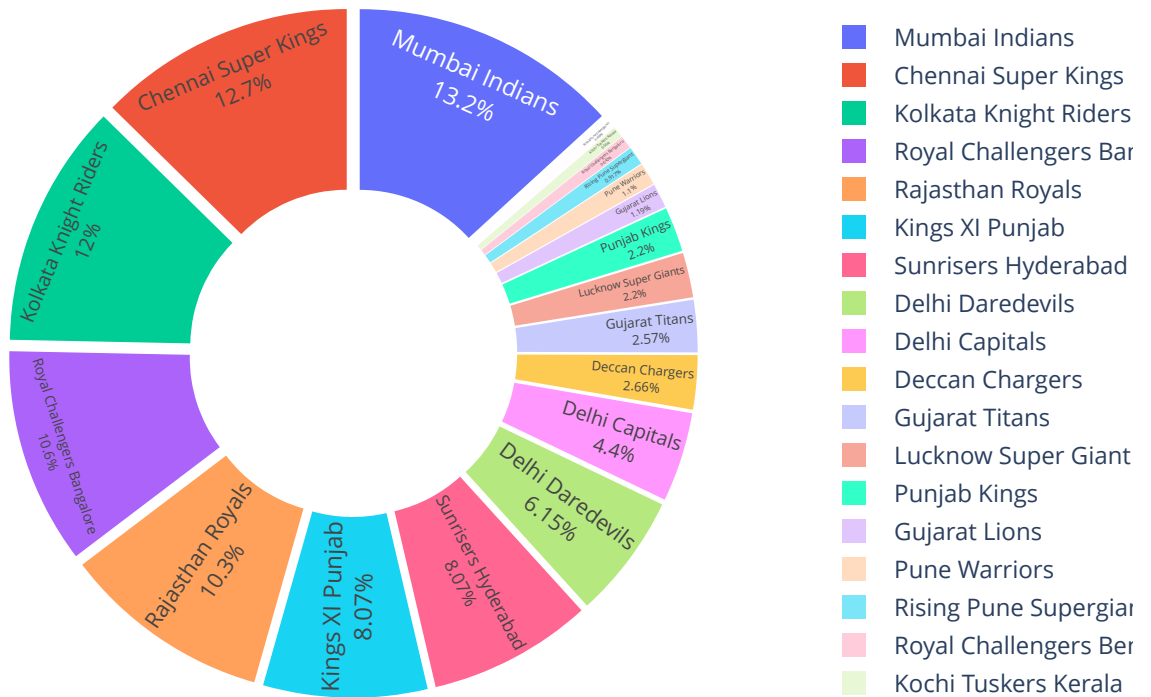
```
fig.show()
```

IPL Winners Donut Chart

Legend:
- Mumbai Indians
- Chennai Super Kings
- Kolkata Knight Riders
- Royal Challengers Bar...
- Rajasthan Royals
- Kings XI Punjab
- Sunrisers Hyderabad
- Delhi Daredevils
- Delhi Capitals
- Deccan Chargers
- Gujarat Titans
- Lucknow Super Giant...
- Punjab Kings
- Gujarat Lions
- Pune Warriors
- Rising Pune Supergian...
- Royal Challengers Ben...
- Kochi Tuskers Kerala

In [56]:
```python
fig = px.bar_polar(
    winner_counts,
    r='winner',
    theta='winner',
    title='IPL Winners — Polar Area Chart',
    color='winner'
)

fig.update_layout(
    title_font_size=24
)

fig.show()
```
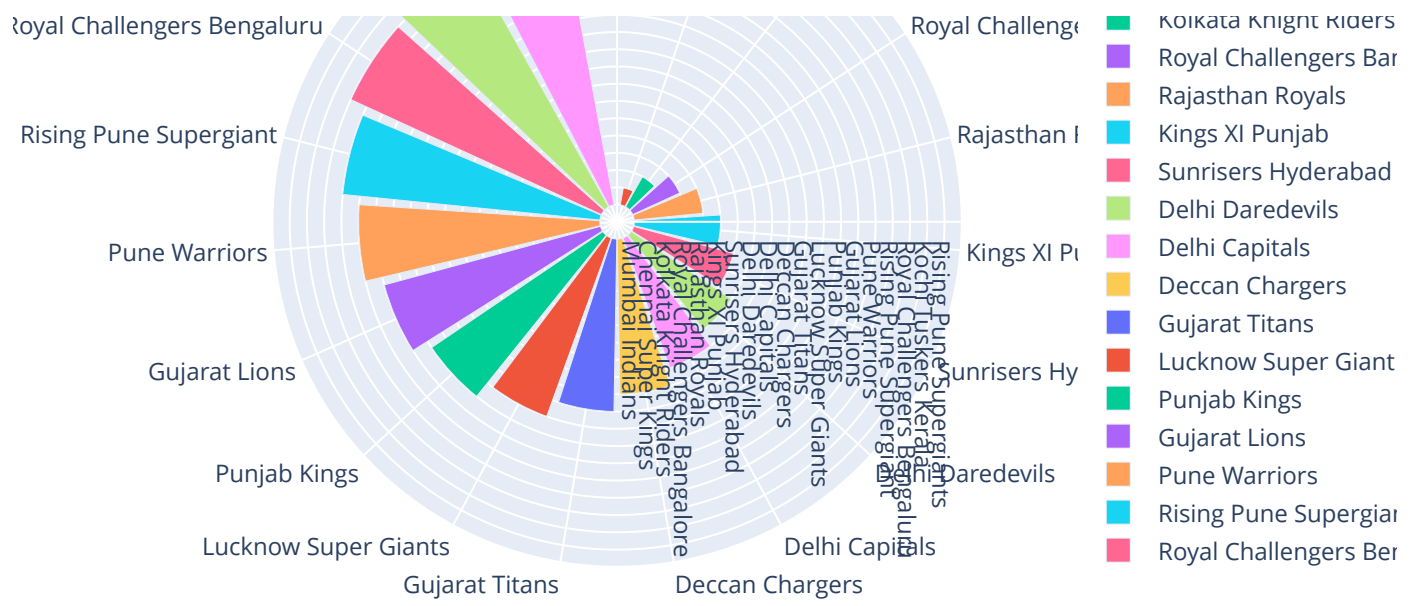
IPL Winners — Polar Area Chart

winner
- Mumbai Indians
- Chennai Super Kings
- Kolkata Knight Riders

Legend:
- Kolkata Knight Riders
- Royal Challengers Bangalore
- Rajasthan Royals
- Kings XI Punjab
- Sunrisers Hyderabad
- Delhi Daredevils
- Delhi Capitals
- Deccan Chargers
- Gujarat Titans
- Lucknow Super Giants
- Punjab Kings
- Gujarat Lions
- Pune Warriors
- Rising Pune Supergiant
- Royal Challengers Bengaluru

Axis labels (left):
- Royal Challengers Bengaluru
- Rising Pune Supergiant
- Pune Warriors
- Gujarat Lions
- Punjab Kings
- Lucknow Super Giants
- Gujarat Titans
- Deccan Chargers

Axis labels (right):
- Royal Challenge...
- Rajasthan R...
- Kings XI Pu...
- Sunrisers Hy...
- Delhi Daredevils
- Delhi Capitals

In [ ]:

In [ ]:

In [ ]: