In [1]:
```
import pandas as pd
import plotly.graph_objects as go
from plotly.subplots import make_subplots
```

In [2]:
```
stats_2021 = pd.read_csv('Data/UCSB_Stats2021.csv')
```

In [3]:
```
stats_2021.head()
```

Out[3]:

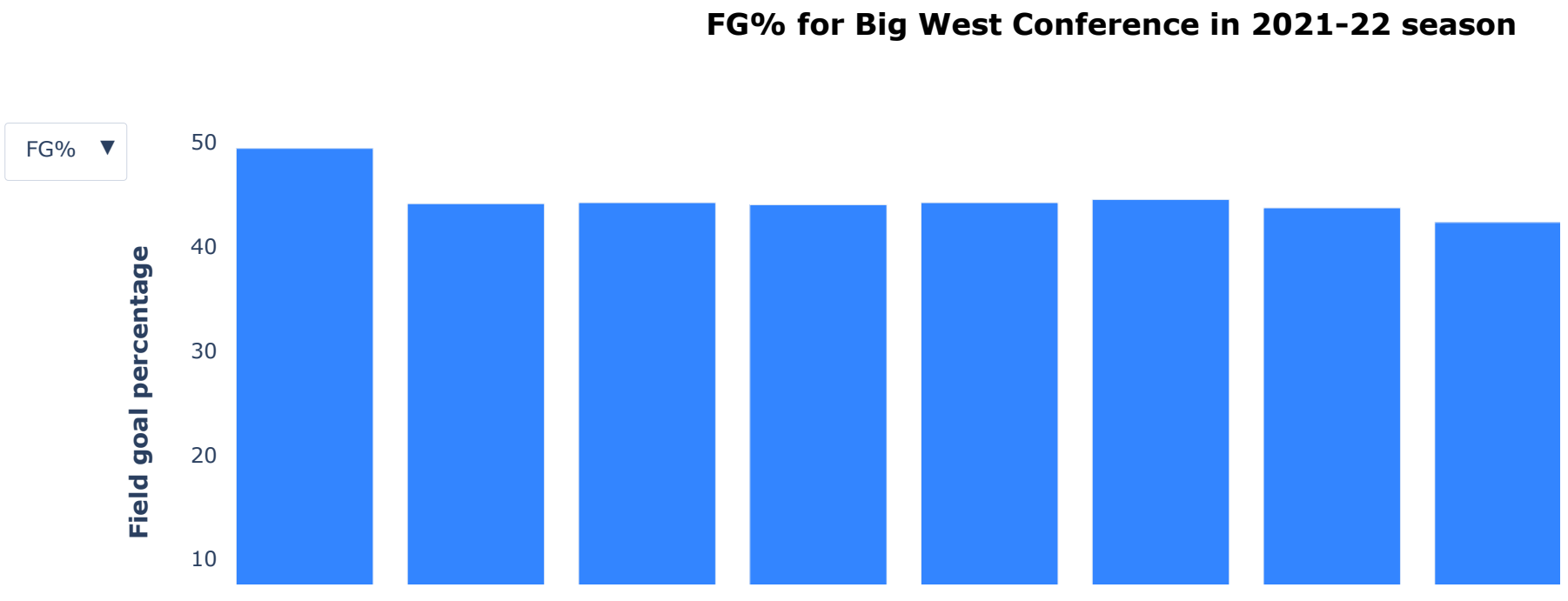
	Rk	Player	G	GS	MP	FG	FGA	FG%	2P	2PA	...	ORB	DRB	TRB	AST	STL	BLK	TOV	PF	PTS	Player-additional
0	1	Amadou Sow	28	28	29.7	6.4	11.4	0.564	6.1	10.2	...	3.0	5.4	8.4	0.7	0.8	0.8	2.0	2.5	15.6	amadou-sow-1
1	2	Ajay Mitchell	27	23	32.1	4.1	7.8	0.531	3.6	6.0	...	0.1	2.1	2.2	3.7	0.8	0.2	1.8	2.9	11.6	ajay-mitchell-1
2	3	Miles Norris	28	28	29.4	3.6	8.1	0.447	2.3	4.4	...	1.4	4.2	5.6	1.3	0.8	0.6	1.7	1.8	10.3	miles-norris-1
3	4	Ajare Sanni	22	17	26.5	3.2	9.1	0.353	1.9	5.0	...	0.3	2.4	2.7	2.9	1.0	0.0	1.4	1.9	10.2	ajare-sanni-1
4	5	Josh Pierre-Louis	26	24	25.5	3.4	6.2	0.550	3.2	5.1	...	1.0	3.1	4.1	3.1	1.2	0.0	2.5	2.0	8.8	josh-pierre-louis-1

5 rows × 27 columns

In [4]:
```
stats_2020 = pd.read_csv('Data/UCSB_Stats2020.csv')
```

In [5]:
```
team = pd.read_csv('Data/basketball_confrence2021.csv')
```

In [6]:
```
# Confrence Stats

fig = make_subplots(rows=1, cols=2)

x1 = team['Team']
y1 = team['FG%']
y2 = team['2P%']
y3 = team['3P%']
y4 = team['PTS']

plot = go.Figure(data=[go.Bar(
    name='FG%',
    x=x1,
    y=y1, marker = dict(color = '#3385ff')),
    go.Bar(
    name='2P%',
    x=x1,
    y= y2,marker = dict(color = '#00e673'), visible = False),
    go.Bar(
    name='3P%',
    x=x1,
    y= y3, marker = dict(color = '#ff8000'), visible = False),
    go.Bar(
    name='PTS',
    x=x1,
    y= y4, marker = dict(color = '#669999'), visible = False)]
)

plot.update_layout(
    updatemenus=[
        dict(
            buttons=list([
                dict(label="FG%",
                     method="update",
                     args=[{"visible": [True, False, False, False]}, {'title': '<b>FG% for Big West Conference in 2021
                dict(label="2P%",
                     method="update",
                     args=[{"visible": [False, True, False, False]}, {'title': '<b>2-point percentage for Big West Con
                        ]),
                dict(label="3P%",
                     method="update",
                     args=[{"visible": [False, False, True, False]}, {'title': '<b>3-point percentage for Big West Con
                        ]),
                dict(label="PTS",
                     method="update",
                     args=[{"visible": [False, False, False, True]}, {'title': '<b>Average Points per game (PPG) for B
                    ])))])


plot.update_xaxes(tickangle=30)
#plot.update_layout(
#    autosize=False,
#    width=960,
#    height=700)
plot.update_layout(title = '<b>FG% for Big West Conference in 2021-22 season', yaxis_title = '<b>Field goal percentage
plot.update_layout({
    'plot_bgcolor': 'rgba(0,0,0,0)',
    'paper_bgcolor': 'rgba(0,0,0,0)'
})
plot.update_layout(title_x=0.5,
    title_font_color="black")
plot.update_xaxes(tickfont_size=16)
```



In [7]:
```
stats_2020.head()
```

Out[7]:

	Player	G	GS	MP	FG	FGA	FG%	2P	2PA	2P%	...	FT%	ORB	DRB	TRB	AST	STL	BLK	TOV	PF	PTS
0	Jaquori McLaughlin	26	26	32.3	5.3	10.9	0.488	3.7	6.9	0.533	...	0.832	0.7	2.8	3.5	5.2	1.5	0.2	2.0	1.5	16.0
1	Amadou Sow	26	25	26.0	5.2	9.0	0.573	5.1	8.5	0.602	...	0.825	2.2	5.4	7.6	0.6	0.6	0.6	2.0	2.3	13.6
2	Ajare Sanni	25	1	24.0	3.6	8.9	0.408	2.0	4.6	0.422	...	0.787	0.4	2.3	2.7	1.7	0.7	0.0	1.2	1.1	10.9
3	Miles Norris	27	25	25.5	3.8	7.9	0.481	2.6	4.8	0.546	...	0.757	0.7	3.8	4.6	1.8	0.7	0.9	0.9	1.6	9.7
4	Devearl Ramsey	27	27	30.7	2.4	6.3	0.388	1.3	3.1	0.422	...	0.900	0.7	2.2	2.9	3.6	1.6	0.0	1.1	1.8	7.7

5 rows × 25 columns

In [8]:
```
stats_2022 = pd.read_csv('Data/BigWestStats2022-2023.csv')
```

In [9]:
```
stats_2022.head()
```

Out[9]:

	Team	G	MP	FG	FGA	FG%	2P	2PA	2P%	3P	...	FT%	ORB	DRB	TRB	AST	STL	BLK	TOV	PF	PTS
0	UC Santa Barbara	10	40.5	27.0	55.3	48.8	21.5	38.8	55.4	5.5	...	68.1	10.2	27.7	37.9	15.3	7.0	3.2	14.0	15.8	73.4
1	University of Hawai'i	9	40.6	25.9	57.8	44.8	18.4	35.0	52.7	7.4	...	70.3	11.0	24.8	35.8	14.2	4.9	4.3	11.0	15.6	70.0
2	UC Irvine	11	40.0	30.0	63.1	47.6	21.7	43.4	50.1	8.3	...	70.1	11.7	28.5	40.2	16.5	7.6	2.8	13.1	18.7	79.5
3	UC Davis	11	40.5	27.7	59.4	46.7	20.5	38.9	52.6	7.3	...	64.1	13.0	29.5	42.5	14.3	6.6	3.8	15.5	19.7	80.3
4	UC Riverside	10	40.0	27.5	61.2	44.9	19.7	37.7	52.3	7.8	...	68.8	10.3	27.3	37.6	12.7	5.3	1.4	12.1	17.9	72.3

5 rows × 24 columns

In [10]:
```
stats_2023 = pd.read_csv('Data/UCSB_Basketball_2022-2023.csv')
```

In [11]:
```
stats_2023.head()
```

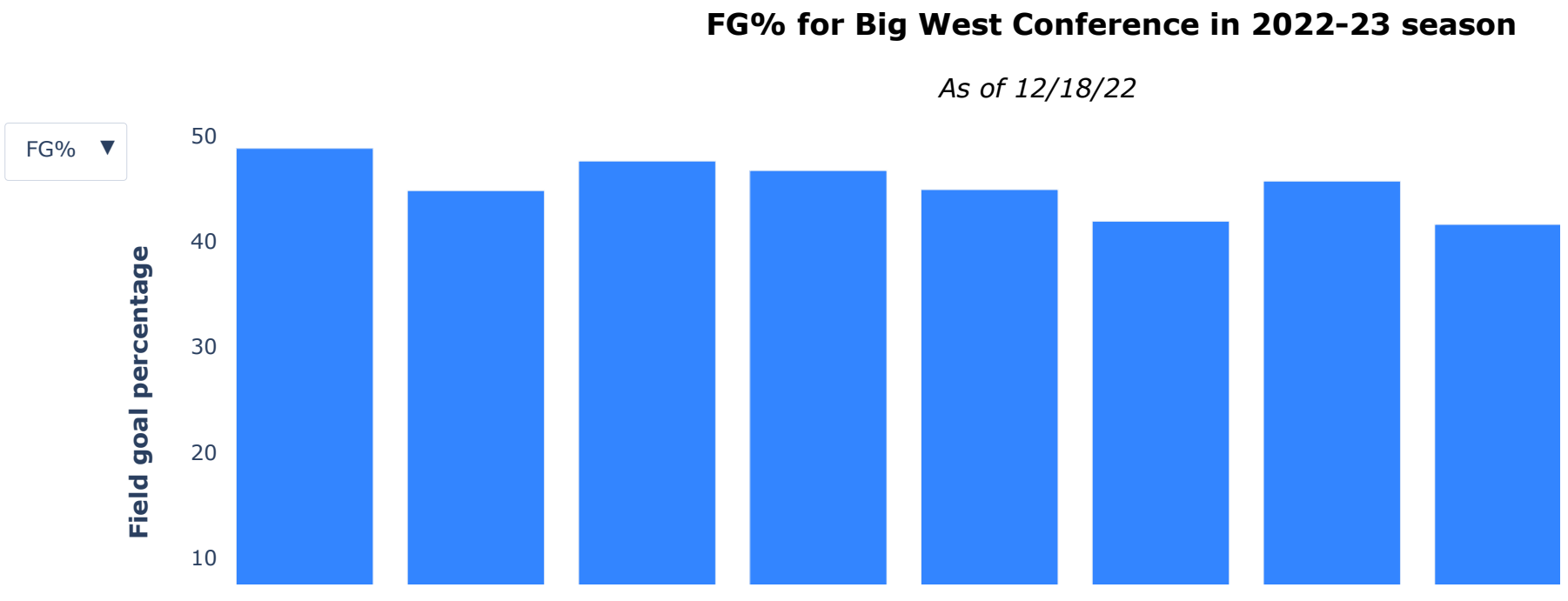
Out[11]:

	Player	G	GS	MP	FG	FGA	FG%	2P	2PA	2P%	...	FT%	ORB	DRB	TRB	AST	STL	BLK	TOV	PF	PTS
0	Ajay Mitchell	10	10	30.3	5.0	10.2	49.0	4.3	7.6	56.6	...	83.3	0.7	2.3	3.0	4.7	1.8	0.3	2.5	2.3	14.7
1	Miles Norris	10	10	32.9	5.0	10.5	47.6	3.9	6.9	56.5	...	71.4	2.1	4.4	6.5	1.9	0.9	1.1	1.4	1.0	13.1
2	Josh Pierre-Louis	9	7	25.3	4.3	8.2	52.7	4.1	7.4	55.2	...	66.7	0.9	2.9	3.8	2.3	1.4	0.2	2.8	1.9	10.4
3	Andre Kelly	10	10	29.5	4.2	7.5	56.0	4.2	7.4	56.8	...	64.0	1.7	6.3	8.0	1.2	0.4	1.1	1.7	2.6	10.0
4	Ajare Sanni	9	9	19.2	2.7	6.3	42.1	1.8	3.6	50.0	...	72.2	0.1	2.2	2.3	1.1	0.8	0.0	1.2	0.8	7.7

5 rows × 25 columns

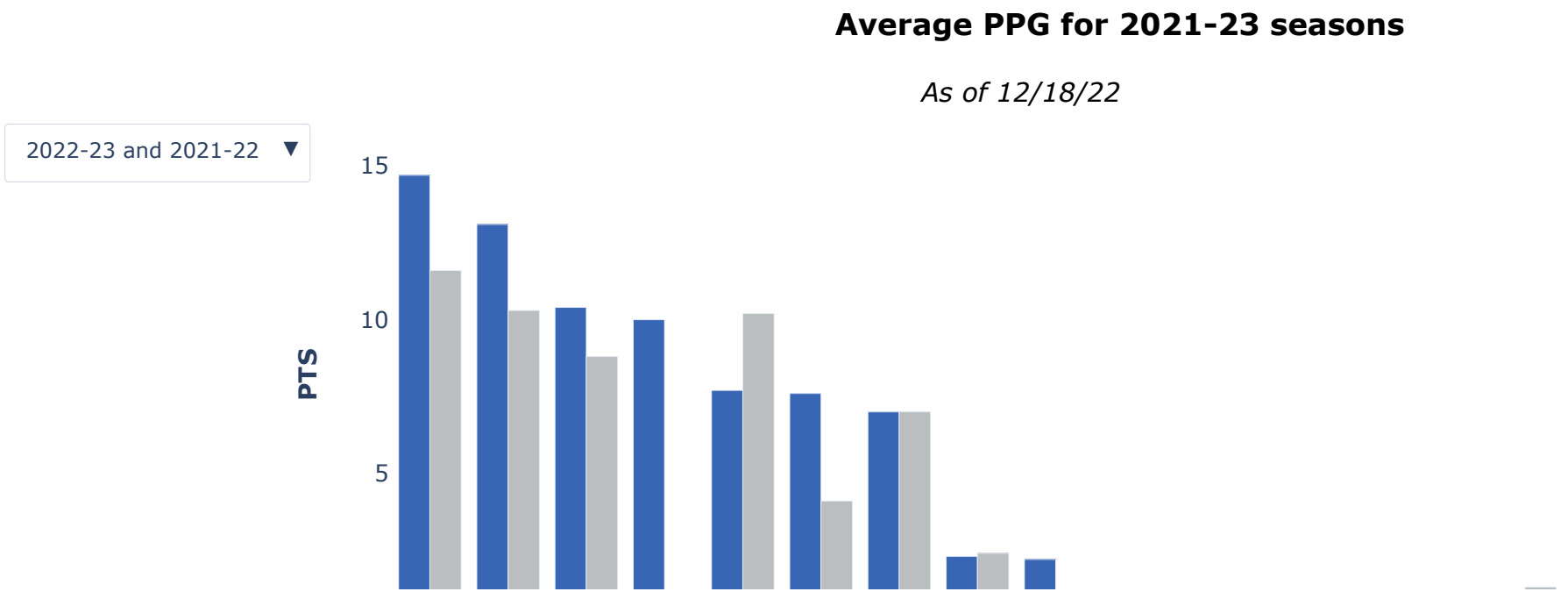
In [12]:
```
# Confrence Stats


x1 = stats_2022['Team']
y1 = stats_2022['FG%']
y2 = stats_2022['2P%']
y3 = stats_2022['3P%']
```

```
y4 = stats_2022['PTS']

plot2 = go.Figure(data=[go.Bar(
    name='FG%',
    x=x1,
    y=y1, marker = dict(color = '#3385ff')),
    go.Bar(
    name='2P%',
    x=x1,
    y= y2,marker = dict(color = '#00e673'), visible = False),
    go.Bar(
    name='3P%',
    x=x1,
    y= y3, marker = dict(color = '#ff8000'), visible = False),
    go.Bar(
    name='PTS',
    x=x1,
    y= y4, marker = dict(color = '#669999'), visible = False)]
)

plot2.update_layout(
    updatemenus=[
        dict(
            buttons=list([
                dict(label="FG%",
                     method="update",
                     args=[{"visible": [True, False, False, False]}, {'title': '<b>FG% for Big West Conference in 2022
                dict(label="2P%",
                     method="update",
                     args=[{"visible": [False, True, False, False]}, {'title': '<b>2P% for Big West Conference in 2022
                     ]),
                dict(label="3P%",
                     method="update",
                     args=[{"visible": [False, False, True, False]}, {'title': '<b>3P% for Big West Conference in 2022
                     ]),
                dict(label="PTS",
                     method="update",
                     args=[{"visible": [False, False, False, True]}, {'title': '<b>Average Points per game (PPG) for B
                    ])))])


plot2.update_xaxes(tickangle=30)
#plot.update_layout(
#    autosize=False,
#    width=960,
#    height=700)
plot2.update_layout(title = '<b>FG% for Big West Conference in 2022-23 season', yaxis_title = '<b>Field goal percentag
plot2.update_layout({
    'plot_bgcolor': 'rgba(0,0,0,0)',
    'paper_bgcolor': 'rgba(0,0,0,0)'
})
plot2.update_layout(title_x=0.5,
    title_font_color="black")
plot2.update_xaxes(tickfont_size=16)

plot2.add_annotation(dict(font=dict(color='black',size=15),
                                        x=.38,
                                        y=--1.1,
                                        showarrow=False,
                                        text="<i>As of 12/18/22",
                                        textangle=0,
                                        xanchor='left',
                                        xref="paper",
                                        yref="paper"))
```



In [13]:
```
# Player Stats

x1 = stats_2021['Player']
x2 = stats_2020['Player']
x3 = stats_2023['Player']
y1 = stats_2021['PTS']
y2 = stats_2020['PTS']
y3 = stats_2023['PTS']

plot3 = go.Figure(data=[go.Bar(
    name='2022-23',
    x=x3,
    y=y3,
    marker = dict(color = '#3866b5')),

    go.Bar(
    name='2021-22',
    x=x1,
    y=y1,
    marker = dict(color = '#bbbebf'))
                      ])

plot3.update_layout(
    updatemenus=[
        dict(
            buttons=list([
                dict(label="2022-23 and 2021-22",
                     method="update",
                     args=[{"visible": [True, True]},{'title': '<b>Average PPG for 2021-23 seasons', 'yaxis': {'title'
                        ]),
                dict(label="2022-23",
                     method="update",
                     args=[{"visible": [True, False]},{'title': '<b>Average PPG for 2022-23 season', 'yaxis': {'title'
                        ]),
                dict(label="2021-22",
                     method="update",
                     args=[{"visible": [False, True]},{'title': '<b>Average PPG for 2021-22 season', 'yaxis': {'title'
                        ]),
                    ])])

plot3.update_xaxes(tickangle=60)
plot3.update_yaxes(tickfont_size=13)
plot3.update_xaxes(tickfont_size=15)
plot3.update_layout({
    'plot_bgcolor': 'rgba(0,0,0,0)',
    'paper_bgcolor': 'rgba(0,0,0,0)'
})
plot3.update_layout(title = '<b>Average PPG for 2021-23 seasons', yaxis_title = '<b>PTS')
plot3.update_layout(title_x=0.5,
    title_font_color="black")

plot3.add_annotation(dict(font=dict(color='black',size=15),
                                        x=.32,
                                        y=--1.1,
                                        showarrow=False,
                                        text="<i>As of 12/18/22",
                                        textangle=0,
                                        xanchor='left',
```

```
                    xref="paper",
                    yref="paper"))
```



In [14]:
```
!pip install chart_studio
import chart_studio
username = 'JakeJensema'
api_key = 'WQMoUmJyZd6Y17bzF1KD'
chart_studio.tools.set_credentials_file(username=username, api_key=api_key)
import chart_studio.plotly as py
import chart_studio.tools as tls
```

```
Requirement already satisfied: chart_studio in ./opt/anaconda3/lib/python3.9/site-packages (1.1.0)
Requirement already satisfied: six in ./opt/anaconda3/lib/python3.9/site-packages (from chart_studio) (1.16.0)
Requirement already satisfied: retrying>=1.3.3 in ./opt/anaconda3/lib/python3.9/site-packages (from chart_studio) (1.
3.4)
Requirement already satisfied: requests in ./opt/anaconda3/lib/python3.9/site-packages (from chart_studio) (2.28.1)
Requirement already satisfied: plotly in ./opt/anaconda3/lib/python3.9/site-packages (from chart_studio) (5.9.0)
Requirement already satisfied: tenacity>=6.2.0 in ./opt/anaconda3/lib/python3.9/site-packages (from plotly->chart_stud
io) (8.0.1)
Requirement already satisfied: urllib3<1.27,>=1.21.1 in ./opt/anaconda3/lib/python3.9/site-packages (from requests->ch
art_studio) (1.26.11)
Requirement already satisfied: idna<4,>=2.5 in ./opt/anaconda3/lib/python3.9/site-packages (from requests->chart_studi
o) (3.3)
Requirement already satisfied: certifi>=2017.4.17 in ./opt/anaconda3/lib/python3.9/site-packages (from requests->chart
_studio) (2022.9.24)
Requirement already satisfied: charset-normalizer<3,>=2 in ./opt/anaconda3/lib/python3.9/site-packages (from requests-
>chart_studio) (2.0.4)
```

In [15]:
```
py.plot(plot, filename = '2021-22_BigWest_Stats', auto_open=True)
```

Out[15]:
```
'https://plotly.com/~JakeJensema/1/'
```

In [16]:
```
py.plot(plot2, filename = '2022-23_BigWest_Stats', auto_open=True)
```

Out[16]:
```
'https://plotly.com/~JakeJensema/4/'
```

In [17]:
```
py.plot(plot3, filename = '2022-23_Player_Stats', auto_open=True)
```

Out[17]:
```
'https://plotly.com/~JakeJensema/6/'
```

In [18]:
```
tls.get_embed('https://plotly.com/~JakeJensema/1/')
```

Out[18]:
```
'<iframe id="igraph" scrolling="no" style="border:none;" seamless="seamless" src="https://plotly.com/~JakeJensema/1.em
bed" height="525" width="100%"></iframe>'
```

In [19]:
```
tls.get_embed('https://plotly.com/~JakeJensema/4/')
```

Out[19]:
```
'<iframe id="igraph" scrolling="no" style="border:none;" seamless="seamless" src="https://plotly.com/~JakeJensema/4.em
bed" height="525" width="100%"></iframe>'
```

In [20]:
```
tls.get_embed('https://plotly.com/~JakeJensema/6/')
```

Out[20]:
```
'<iframe id="igraph" scrolling="no" style="border:none;" seamless="seamless" src="https://plotly.com/~JakeJensema/6.em
bed" height="525" width="100%"></iframe>'
```