

```
In [1]: import matplotlib.pyplot as plt
import numpy as np
import pandas as pd
```

```
In [34]: #Line Graphs:

x=[0,1,2,3,4,5]
y=[0,2,4,6,8,10]

plt.figure(figsize=(3,2), dpi=200)
plt.plot(x,y, label='Legends', color='black', linewidth=2, marker='.', linestyle='--', markersize=8, markeredgecolor='red')

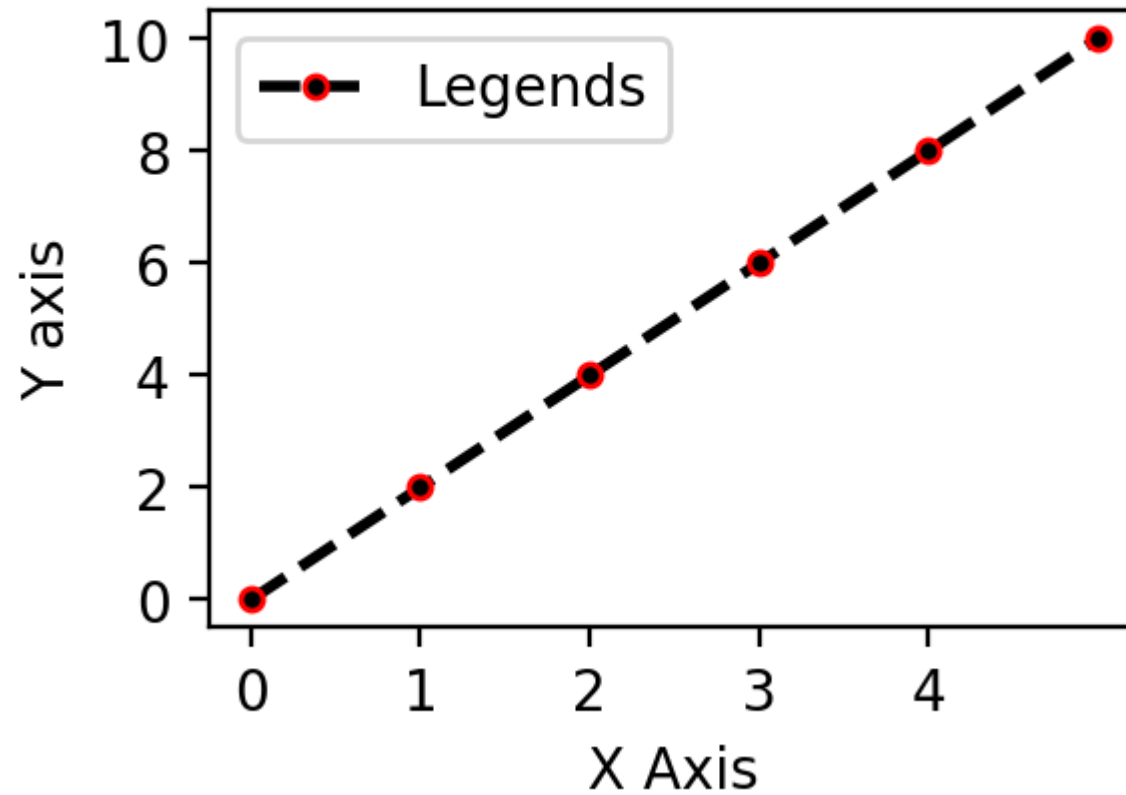
plt.title('First One', fontdict={'fontname': 'Comic Sans MS', 'fontsize':20})
plt.xlabel('X Axis')
plt.ylabel('Y axis')

plt.xticks([0,1,2,3,4])
plt.yticks([0,2,4,6,8,10])

plt.legend()

plt.show()
```

# First One

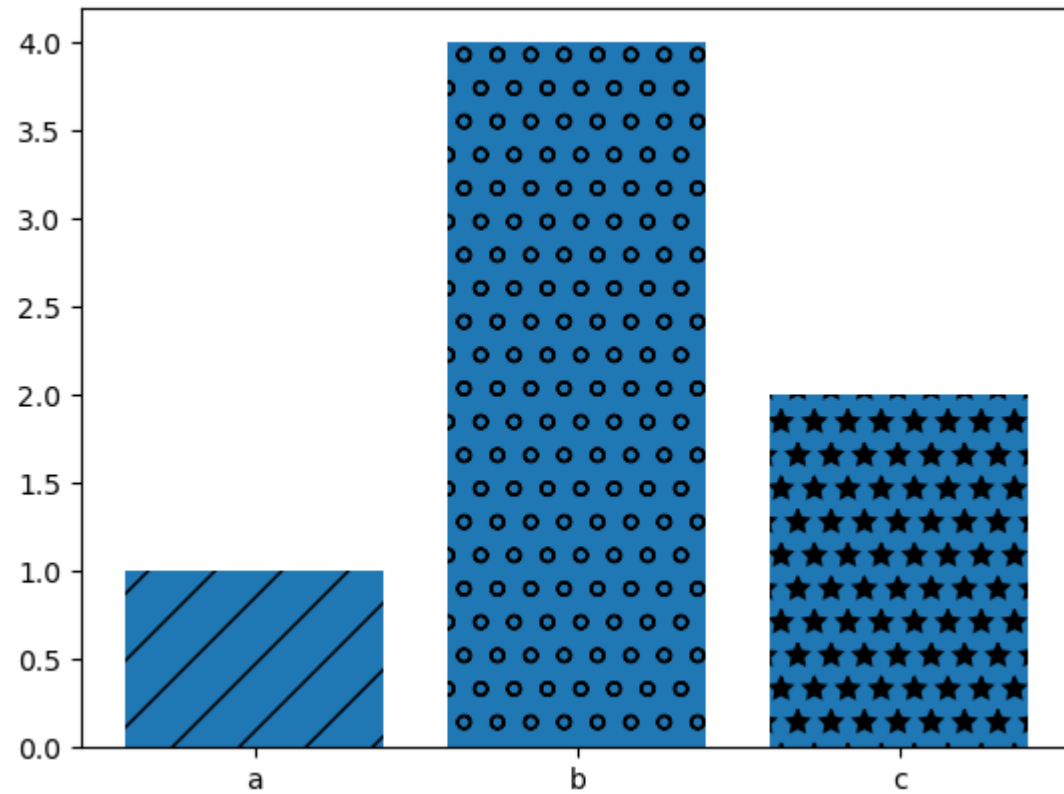


```
In [40]: #Bar Charts:

labels=['a','b','c']
values=[1,4,2]
bars=plt.bar(labels,values)

bars[0].set_hatch('/')
bars[1].set_hatch('o')
bars[2].set_hatch('*')

plt.show()
```



## Gas Prices:

```
In [9]: gas=pd.read_csv(r'C:\Users\SAMAD\Downloads\Datasets\gas_prices.csv')
gas
```

Out[9]:

	Year	Australia	Canada	France	Germany	Italy	Japan	Mexico	South Korea	UK	USA
<b>0</b>	1990	NaN	1.87	3.63	2.65	4.59	3.16	1.00	2.05	2.82	1.16
<b>1</b>	1991	1.96	1.92	3.45	2.90	4.50	3.46	1.30	2.49	3.01	1.14
<b>2</b>	1992	1.89	1.73	3.56	3.27	4.53	3.58	1.50	2.65	3.06	1.13
<b>3</b>	1993	1.73	1.57	3.41	3.07	3.68	4.16	1.56	2.88	2.84	1.11
<b>4</b>	1994	1.84	1.45	3.59	3.52	3.70	4.36	1.48	2.87	2.99	1.11
<b>5</b>	1995	1.95	1.53	4.26	3.96	4.00	4.43	1.11	2.94	3.21	1.15
<b>6</b>	1996	2.12	1.61	4.41	3.94	4.39	3.64	1.25	3.18	3.34	1.23
<b>7</b>	1997	2.05	1.62	4.00	3.53	4.07	3.26	1.47	3.34	3.83	1.23
<b>8</b>	1998	1.63	1.38	3.87	3.34	3.84	2.82	1.49	3.04	4.06	1.06
<b>9</b>	1999	1.72	1.52	3.85	3.42	3.87	3.27	1.79	3.80	4.29	1.17
<b>10</b>	2000	1.94	1.86	3.80	3.45	3.77	3.65	2.01	4.18	4.58	1.51
<b>11</b>	2001	1.71	1.72	3.51	3.40	3.57	3.27	2.20	3.76	4.13	1.46
<b>12</b>	2002	1.76	1.69	3.62	3.67	3.74	3.15	2.24	3.84	4.16	1.36
<b>13</b>	2003	2.19	1.99	4.35	4.59	4.53	3.47	2.04	4.11	4.70	1.59
<b>14</b>	2004	2.72	2.37	4.99	5.24	5.29	3.93	2.03	4.51	5.56	1.88
<b>15</b>	2005	3.23	2.89	5.46	5.66	5.74	4.28	2.22	5.28	5.97	2.30
<b>16</b>	2006	3.54	3.26	5.88	6.03	6.10	4.47	2.31	5.92	6.36	2.59
<b>17</b>	2007	3.85	3.59	6.60	6.88	6.73	4.49	2.40	6.21	7.13	2.80
<b>18</b>	2008	4.45	4.08	7.51	7.75	7.63	5.74	2.45	5.83	7.42	3.27

```

In [55]: gas=pd.read_csv(r'C:\Users\SAMAD\Downloads\Datasets\gas_prices.csv')

plt.figure(figsize=(7,4))

plt.title('Gas Prices over the Year')

plt.plot(gas.Year, gas.USA, 'b.-', label='United States')

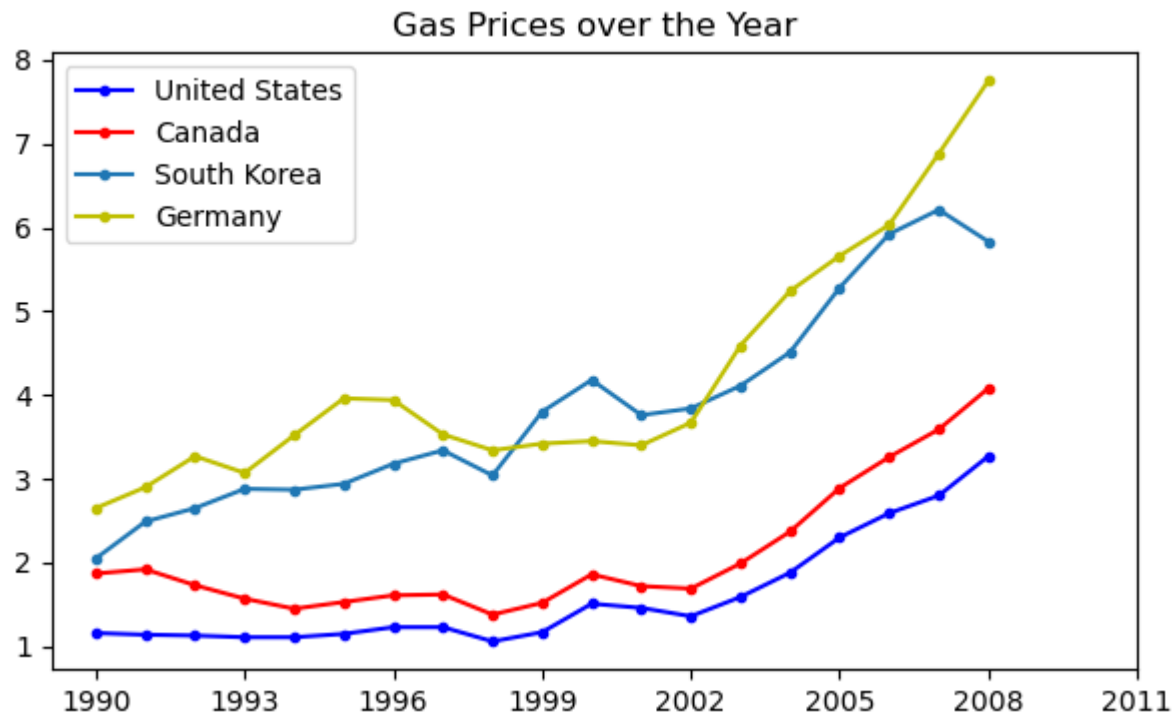
```

```
plt.plot(gas.Year, gas.Canada, 'r.-', label='Canada')
plt.plot(gas.Year, gas['South Korea'], 'b.-', label='South Korea')
plt.plot(gas.Year, gas.Germany, 'y.-', label='Germany')

plt.xticks(gas.Year[::3].tolist()+[2011])

plt.legend()

plt.show()
```



## FiFa Datasets

```
In [3]: fifa=pd.read_csv(r'C:\Users\SAMAD\Downloads\Datasets\fifa_data.csv')
fifa.head()
```

Out[3]:

	Unnamed: 0	ID	Name	Age	Photo	Nationality	Flag	Overall	Potential	C
0	0	158023	L. Messi	31	https://cdn.sofifa.org/players/4/19/158023.png	Argentina	https://cdn.sofifa.org/flags/52.png	94	94	Barcel
1	1	20801	Cristiano Ronaldo	33	https://cdn.sofifa.org/players/4/19/20801.png	Portugal	https://cdn.sofifa.org/flags/38.png	94	94	Juver
2	2	190871	Neymar Jr	26	https://cdn.sofifa.org/players/4/19/190871.png	Brazil	https://cdn.sofifa.org/flags/54.png	92	93	Paris Sa Gerr
3	3	193080	De Gea	27	https://cdn.sofifa.org/players/4/19/193080.png	Spain	https://cdn.sofifa.org/flags/45.png	91	93	Manche: Uni
4	4	192985	K. De Bruyne	27	https://cdn.sofifa.org/players/4/19/192985.png	Belgium	https://cdn.sofifa.org/flags/7.png	91	92	Manche: (

5 rows × 89 columns



## Histogram

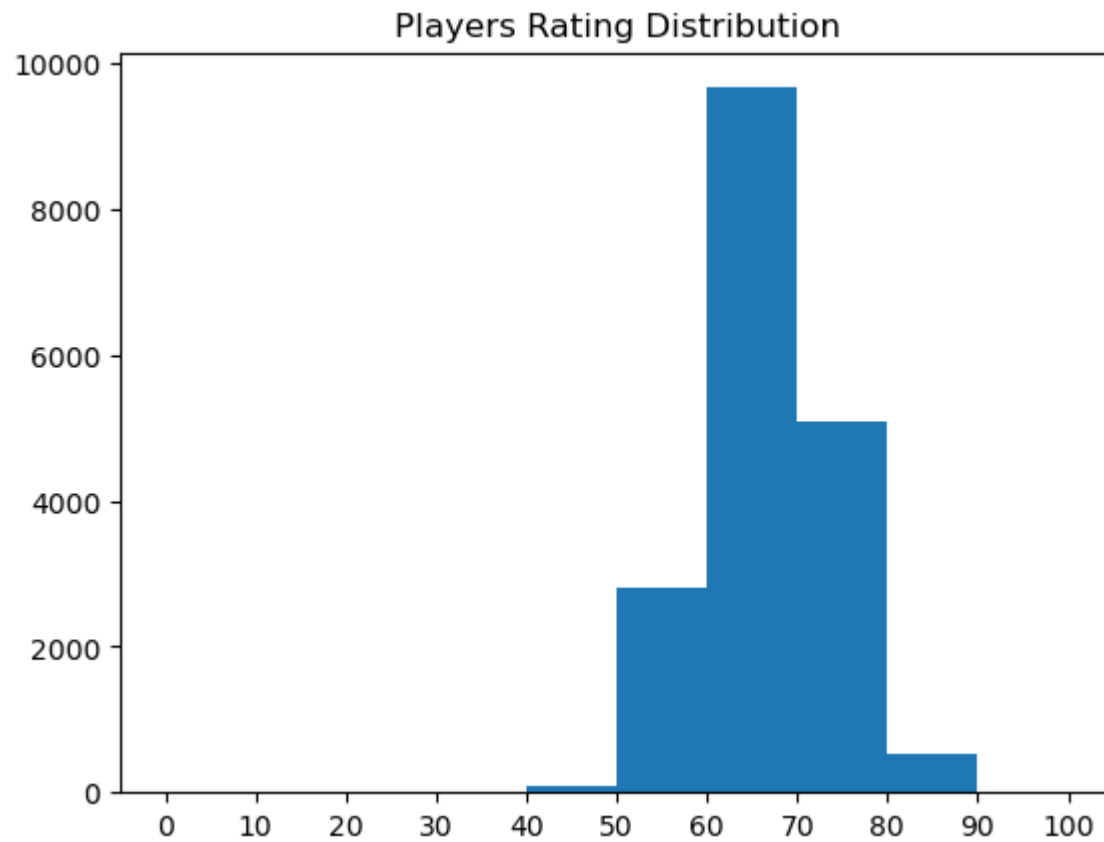
```
In [70]: bins=[0,10,20,30,40,50,60,70,80,90,100]

plt.hist(fifa.Overall, bins=bins)

plt.xticks(bins)

plt.title('Players Rating Distribution')

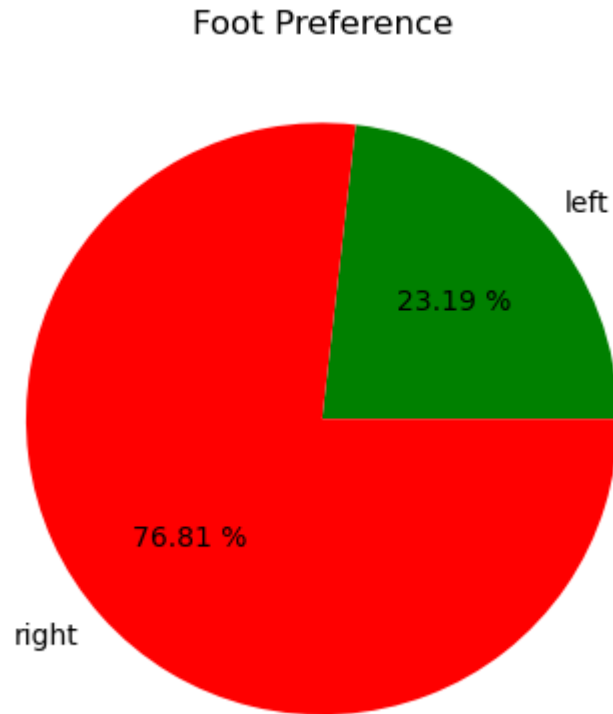
plt.show()
```

**Pie Chart:**

```
In [89]: left=fifa.loc[fifa['Preferred Foot']=='Left'].count()[0]
right=fifa.loc[fifa['Preferred Foot']=='Right'].count()[0]

labels=['left','right']
colors=['green','Red']

plt.pie([left,right],labels=labels, colors=colors, autopct='%.2f %')
plt.title('Foot Preference')
plt.show()
```



```
In [31]: fifa.Weight = [int(x.strip('lbs')) if type(x)==str else x for x in fifa.Weight]

plt.style.use('ggplot')

light = fifa.loc[fifa.Weight < 125].count()[0]
light_medium = fifa.loc[(fifa.Weight >= 125) & (fifa.Weight < 150)].count()[0]
medium = fifa[(fifa.Weight >= 150) & (fifa.Weight < 175)].count()[0]
medium_heavy = fifa[(fifa.Weight >= 175) & (fifa.Weight < 200)].count()[0]
heavy = fifa[(fifa.Weight > 200)].count()[0]

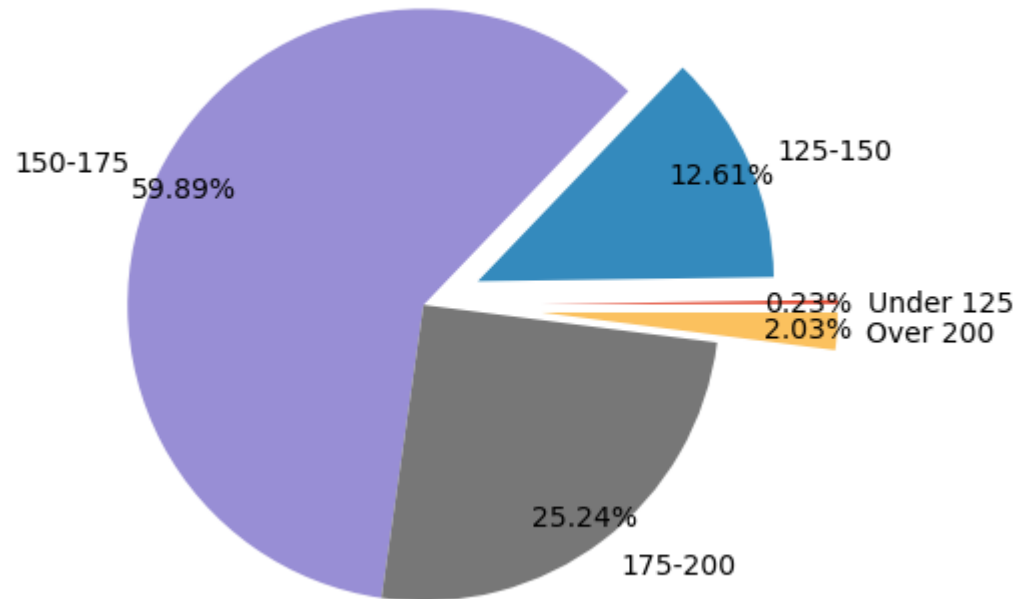
weights = [light, light_medium, medium, medium_heavy, heavy]
labels=['Under 125', '125-150', '150-175', '175-200', 'Over 200']
explode=(.4,.2, 0, 0, 0.4)

plt.title('Weight distribution of FIFA Players(in LBS)')
```



```
plt.pie(weights, labels=labels, autopct='%0.2f%%', pctdistance=0.9, explode=explode)
plt.show()
```

## Weight distribution of FIFA Players(in LBS)



```
In [60]: plt.style.use('default')
plt.figure(figsize= (14,8))

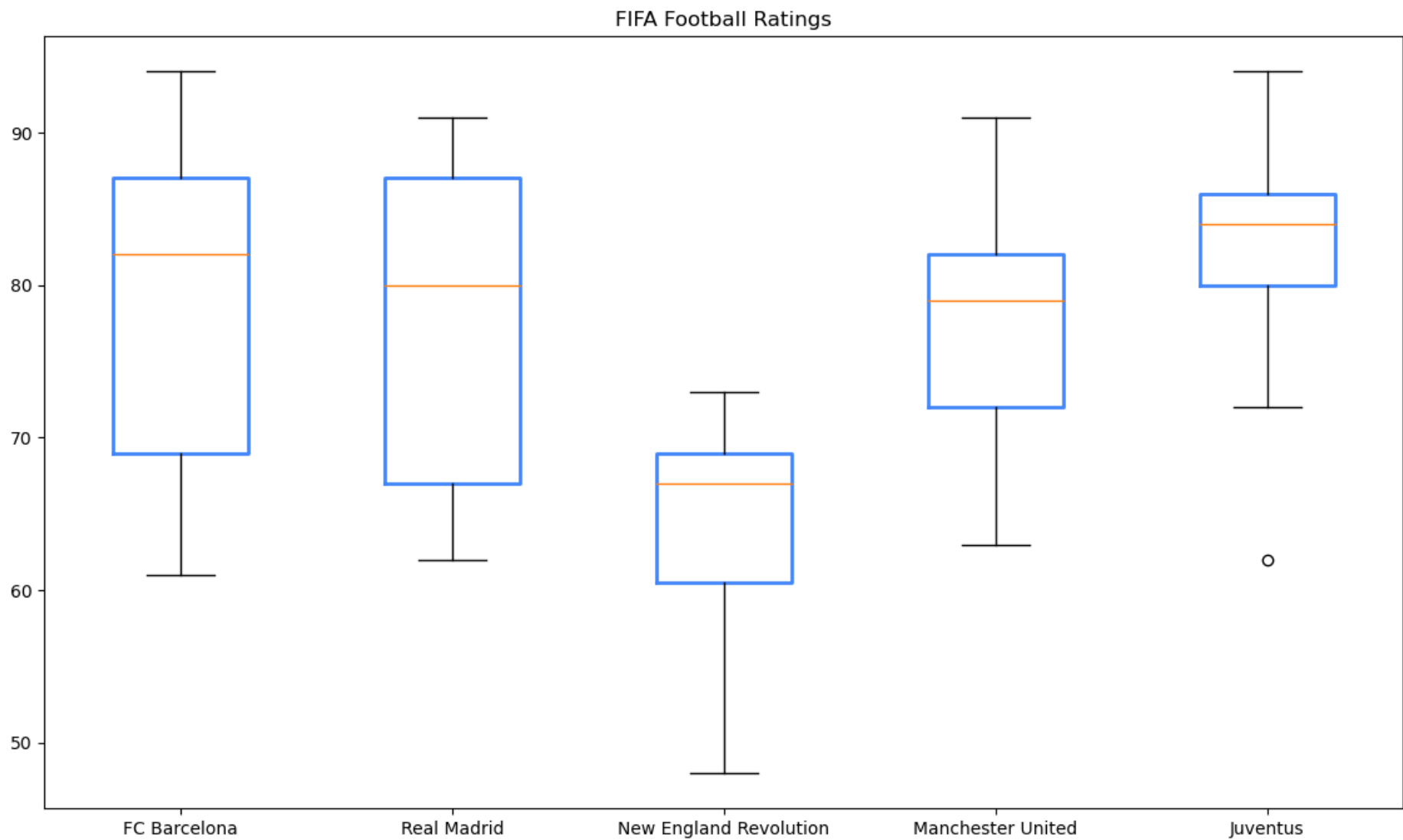
barcelona = fifa.loc[fifa.Club == 'FC Barcelona']['Overall']
madrid = fifa.loc[fifa.Club == 'Real Madrid']['Overall']
revs = fifa.loc[fifa.Club == 'New England Revolution']['Overall']
MU = fifa.loc[fifa.Club == 'Manchester United']['Overall']
Juv = fifa.loc[fifa.Club == 'Juventus']['Overall']

labels= ['FC Barcelona', 'Real Madrid', 'New England Revolution', 'Manchester United', 'Juventus']

boxes = plt.boxplot([barcelona, madrid, revs, MU, Juv], labels=labels)

for box in boxes['boxes']:
```

```
box.set(color='#4286f9', linewidth=2)  
plt.title("FIFA Football Ratings")  
plt.show()
```



In [ ]: