In [1]:

```
import pandas as pd
import matplotlib.pyplot as plt
```

In [2]:

```
df = pd.read_csv("Input.csv")
```

In [3]:

```
df
```

Out[3]:

	Match	Bat1_Over1to6_Runs	Bat1_Over1to6_Wickets	Bat1_Over7to10_Runs	Bat1_Over7to10_Wickets	Bat1_Over11to15_Runs	Bat1_Over11to15_Wickets	B
0	1.0	48.0	0.0	28.0	0.0	50.0	0.0	
1	2.0	54.0	0.0	38.0	1.0	64.0	0.0	
2	3.0	29.0	5.0	16.0	0.0	46.0	0.0	
3	4.0	49.0	0.0	24.0	2.0	24.0	3.0	
4	5.0	52.0	1.0	17.0	1.0	38.0	2.0	
5	6.0	53.0	0.0	26.0	1.0	39.0	2.0	
6	7.0	56.0	1.0	38.0	1.0	38.0	5.0	
7	8.0	48.0	2.0	39.0	0.0	51.0	1.0	
8	9.0	43.0	2.0	43.0	0.0	65.0	3.0	
9	NaN	NaN	NaN	NaN	NaN	NaN	NaN	
10	NaN	NaN	NaN	NaN	NaN	NaN	NaN	
11	NaN	NaN	NaN	NaN	NaN	NaN	NaN	
12	NaN	NaN	NaN	NaN	NaN	NaN	NaN	
13	NaN	NaN	NaN	NaN	NaN	NaN	NaN	
14	NaN	NaN	NaN	NaN	NaN	NaN	NaN	
15	NaN	NaN	NaN	NaN	NaN	NaN	NaN	
16	NaN	NaN	NaN	NaN	NaN	NaN	NaN	
17	NaN	NaN	NaN	NaN	NaN	NaN	NaN	
18	NaN	NaN	NaN	NaN	NaN	NaN	NaN	
19	NaN	NaN	NaN	NaN	NaN	NaN	NaN	
20	NaN	NaN	NaN	NaN	NaN	NaN	NaN	

In [4]:

```
df = df.dropna()
```

In [5]:

```
df
```

Out[5]:

	Match	Bat1_Over1to6_Runs	Bat1_Over1to6_Wickets	Bat1_Over7to10_Runs	Bat1_Over7to10_Wickets	Bat1_Over11to15_Runs	Bat1_Over11to15_Wickets	Ba
0	1.0	48.0	0.0	28.0	0.0	50.0	0.0	
1	2.0	54.0	0.0	38.0	1.0	64.0	0.0	
2	3.0	29.0	5.0	16.0	0.0	46.0	0.0	
3	4.0	49.0	0.0	24.0	2.0	24.0	3.0	
4	5.0	52.0	1.0	17.0	1.0	38.0	2.0	
5	6.0	53.0	0.0	26.0	1.0	39.0	2.0	
6	7.0	56.0	1.0	38.0	1.0	38.0	5.0	
7	8.0	48.0	2.0	39.0	0.0	51.0	1.0	
8	9.0	43.0	2.0	43.0	0.0	65.0	3.0	

In [6]:

```
means = df.mean()
```

In [7]:

```
means
```

Out[7]:

```
Match                       5.000000
Bat1_Over1to6_Runs         48.000000
Bat1_Over1to6_Wickets       1.222222
Bat1_Over7to10_Runs        29.888889
Bat1_Over7to10_Wickets      0.666667
Bat1_Over11to15_Runs       46.111111
Bat1_Over11to15_Wickets     1.777778
Bat1_Over16to20_Runs       44.444444
Bat1_Over16to20_Wickets     2.888889
Bat2_Over1to6_Runs         49.444444
Bat2_Over1to6_Wickets       1.888889
Bat2_Over7to10_Runs        29.888889
Bat2_Over7to10_Wickets      1.111111
Bat2_Over11to15_Runs       39.111111
Bat2_Over11to15_Wickets     1.222222
Bat2_Over16to20_Runs       22.888889
Bat2_Over16to20_Wickets     1.777778
dtype: float64
```

In [8]:

```
means.drop(index=means.index[0], axis=0, inplace=True)
```

In [9]:

```
means
```

Out[9]:

```
Bat1_Over1to6_Runs         48.000000
Bat1_Over1to6_Wickets       1.222222
Bat1_Over7to10_Runs        29.888889
Bat1_Over7to10_Wickets      0.666667
Bat1_Over11to15_Runs       46.111111
Bat1_Over11to15_Wickets     1.777778
Bat1_Over16to20_Runs       44.444444
Bat1_Over16to20_Wickets     2.888889
Bat2_Over1to6_Runs         49.444444
Bat2_Over1to6_Wickets       1.888889
Bat2_Over7to10_Runs        29.888889
Bat2_Over7to10_Wickets      1.111111
Bat2_Over11to15_Runs       39.111111
Bat2_Over11to15_Wickets     1.222222
Bat2_Over16to20_Runs       22.888889
Bat2_Over16to20_Wickets     1.777778
dtype: float64
```

In [10]:

```
newdf = pd.DataFrame(means)
```

In [11]:

```
newdf
```

Out[11]:

	0
Bat1_Over1to6_Runs	48.000000
Bat1_Over1to6_Wickets	1.222222
Bat1_Over7to10_Runs	29.888889
Bat1_Over7to10_Wickets	0.666667
Bat1_Over11to15_Runs	46.111111
Bat1_Over11to15_Wickets	1.777778
Bat1_Over16to20_Runs	44.444444
Bat1_Over16to20_Wickets	2.888889
Bat2_Over1to6_Runs	49.444444
Bat2_Over1to6_Wickets	1.888889
Bat2_Over7to10_Runs	29.888889
Bat2_Over7to10_Wickets	1.111111
Bat2_Over11to15_Runs	39.111111
Bat2_Over11to15_Wickets	1.222222
Bat2_Over16to20_Runs	22.888889
Bat2_Over16to20_Wickets	1.777778

In [12]:

```
newdf.index.names = ["Matches"]
```

In [13]:

```
newdf
```

Out[13]:

Matches	0
Bat1_Over1to6_Runs	48.000000
Bat1_Over1to6_Wickets	1.222222
Bat1_Over7to10_Runs	29.888889
Bat1_Over7to10_Wickets	0.666667
Bat1_Over11to15_Runs	46.111111
Bat1_Over11to15_Wickets	1.777778
Bat1_Over16to20_Runs	44.444444
Bat1_Over16to20_Wickets	2.888889
Bat2_Over1to6_Runs	49.444444
Bat2_Over1to6_Wickets	1.888889
Bat2_Over7to10_Runs	29.888889
Bat2_Over7to10_Wickets	1.111111
Bat2_Over11to15_Runs	39.111111
Bat2_Over11to15_Wickets	1.222222
Bat2_Over16to20_Runs	22.888889
Bat2_Over16to20_Wickets	1.777778

In [14]:

```
newdf.columns
```

Out[14]:

```
RangeIndex(start=0, stop=1, step=1)
```

In [15]:

```
newdf.rename(columns = {"Matches" : "Averages"},inplace = True)
```

In [16]:

```
newdf
```

Out[16]:

Matches	0
Bat1_Over1to6_Runs	48.000000
Bat1_Over1to6_Wickets	1.222222
Bat1_Over7to10_Runs	29.888889
Bat1_Over7to10_Wickets	0.666667
Bat1_Over11to15_Runs	46.111111
Bat1_Over11to15_Wickets	1.777778
Bat1_Over16to20_Runs	44.444444
Bat1_Over16to20_Wickets	2.888889
Bat2_Over1to6_Runs	49.444444
Bat2_Over1to6_Wickets	1.888889
Bat2_Over7to10_Runs	29.888889
Bat2_Over7to10_Wickets	1.111111
Bat2_Over11to15_Runs	39.111111
Bat2_Over11to15_Wickets	1.222222
Bat2_Over16to20_Runs	22.888889
Bat2_Over16to20_Wickets	1.777778

In [17]:

```
newdf.reset_index(inplace = True)
```

In [18]:

```
newdf
```

Out[18]:

	Matches	0
0	Bat1_Over1to6_Runs	48.000000
1	Bat1_Over1to6_Wickets	1.222222
2	Bat1_Over7to10_Runs	29.888889
3	Bat1_Over7to10_Wickets	0.666667
4	Bat1_Over11to15_Runs	46.111111
5	Bat1_Over11to15_Wickets	1.777778
6	Bat1_Over16to20_Runs	44.444444
7	Bat1_Over16to20_Wickets	2.888889
8	Bat2_Over1to6_Runs	49.444444
9	Bat2_Over1to6_Wickets	1.888889
10	Bat2_Over7to10_Runs	29.888889
11	Bat2_Over7to10_Wickets	1.111111
12	Bat2_Over11to15_Runs	39.111111
13	Bat2_Over11to15_Wickets	1.222222
14	Bat2_Over16to20_Runs	22.888889
15	Bat2_Over16to20_Wickets	1.777778

In [19]:

```
newdf.columns
```

Out[19]:

```
Index(['Matches', 0], dtype='object')
```

In [22]:

```
df2 = newdf.reindex(index = [0,8,2,10,4,12,6,14,1,9,3,11,5,13,7,15])
```

In [24]:

```
df3 = df2.reset_index()
```

In [25]:

```
df3
```

Out[25]:

	index	Matches	0
0	0	Bat1_Over1to6_Runs	48.000000
1	8	Bat2_Over1to6_Runs	49.444444
2	2	Bat1_Over7to10_Runs	29.888889
3	10	Bat2_Over7to10_Runs	29.888889
4	4	Bat1_Over11to15_Runs	46.111111
5	12	Bat2_Over11to15_Runs	39.111111
6	6	Bat1_Over16to20_Runs	44.444444
7	14	Bat2_Over16to20_Runs	22.888889
8	1	Bat1_Over1to6_Wickets	1.222222
9	9	Bat2_Over1to6_Wickets	1.888889
10	3	Bat1_Over7to10_Wickets	0.666667
11	11	Bat2_Over7to10_Wickets	1.111111
12	5	Bat1_Over11to15_Wickets	1.777778
13	13	Bat2_Over11to15_Wickets	1.222222
14	7	Bat1_Over16to20_Wickets	2.888889
15	15	Bat2_Over16to20_Wickets	1.777778

In [26]:

```
df4 = df3.drop("index", axis = 1)
```

In [27]:

```
df4
```

Out[27]:

	Matches	0
0	Bat1_Over1to6_Runs	48.000000
1	Bat2_Over1to6_Runs	49.444444
2	Bat1_Over7to10_Runs	29.888889
3	Bat2_Over7to10_Runs	29.888889
4	Bat1_Over11to15_Runs	46.111111
5	Bat2_Over11to15_Runs	39.111111
6	Bat1_Over16to20_Runs	44.444444
7	Bat2_Over16to20_Runs	22.888889
8	Bat1_Over1to6_Wickets	1.222222
9	Bat2_Over1to6_Wickets	1.888889
10	Bat1_Over7to10_Wickets	0.666667
11	Bat2_Over7to10_Wickets	1.111111
12	Bat1_Over11to15_Wickets	1.777778
13	Bat2_Over11to15_Wickets	1.222222
14	Bat1_Over16to20_Wickets	2.888889
15	Bat2_Over16to20_Wickets	1.777778

In [30]:

```
df5 = df4.rename(columns = {0:"Averages"})
```

In [31]:

```
df5
```

Out[31]:

	Matches	Averages
0	Bat1_Over1to6_Runs	48.000000
1	Bat2_Over1to6_Runs	49.444444
2	Bat1_Over7to10_Runs	29.888889
3	Bat2_Over7to10_Runs	29.888889
4	Bat1_Over11to15_Runs	46.111111
5	Bat2_Over11to15_Runs	39.111111
6	Bat1_Over16to20_Runs	44.444444
7	Bat2_Over16to20_Runs	22.888889
8	Bat1_Over1to6_Wickets	1.222222
9	Bat2_Over1to6_Wickets	1.888889
10	Bat1_Over7to10_Wickets	0.666667
11	Bat2_Over7to10_Wickets	1.111111
12	Bat1_Over11to15_Wickets	1.777778
13	Bat2_Over11to15_Wickets	1.222222
14	Bat1_Over16to20_Wickets	2.888889
15	Bat2_Over16to20_Wickets	1.777778

In [46]:

```
df6 = df5.loc[0:7][["Matches","Averages"]]
```

In [35]:

```
df6
```

Out[35]:

	Matches	Averages
0	Bat1_Over1to6_Runs	48.000000
1	Bat2_Over1to6_Runs	49.444444
2	Bat1_Over7to10_Runs	29.888889
3	Bat2_Over7to10_Runs	29.888889
4	Bat1_Over11to15_Runs	46.111111
5	Bat2_Over11to15_Runs	39.111111
6	Bat1_Over16to20_Runs	44.444444
7	Bat2_Over16to20_Runs	22.888889

In [36]:

```
df7 = df5.loc[8:15][["Matches","Averages"]]
```

In [37]:

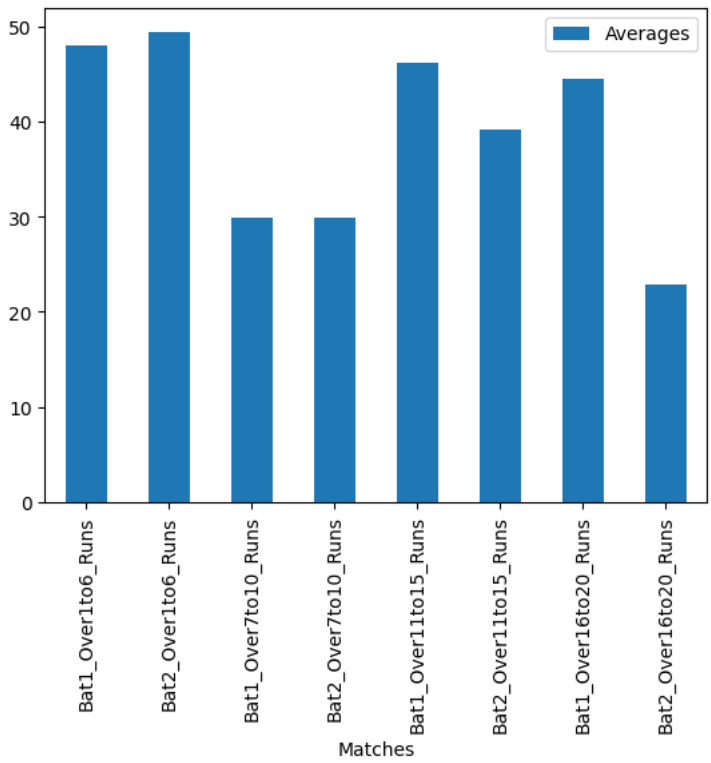
```
df7
```

Out[37]:

	Matches	Averages
8	Bat1_Over1to6_Wickets	1.222222
9	Bat2_Over1to6_Wickets	1.888889
10	Bat1_Over7to10_Wickets	0.666667
11	Bat2_Over7to10_Wickets	1.111111
12	Bat1_Over11to15_Wickets	1.777778
13	Bat2_Over11to15_Wickets	1.222222
14	Bat1_Over16to20_Wickets	2.888889
15	Bat2_Over16to20_Wickets	1.777778

In [45]:

```
df6.plot(x="Matches",y="Averages", kind = "bar")
plt.show()
```



In [47]:

```
df8 = df5.loc[0:3][["Matches","Averages"]]
```

In [48]:

```
df9 = df5.loc[4:7][["Matches","Averages"]]
```

In [49]:

```
df10 = df5.loc[8:11][["Matches","Averages"]]
```

In [50]:

```
df11 = df5.loc[12:15][["Matches","Averages"]]
```

In [51]:

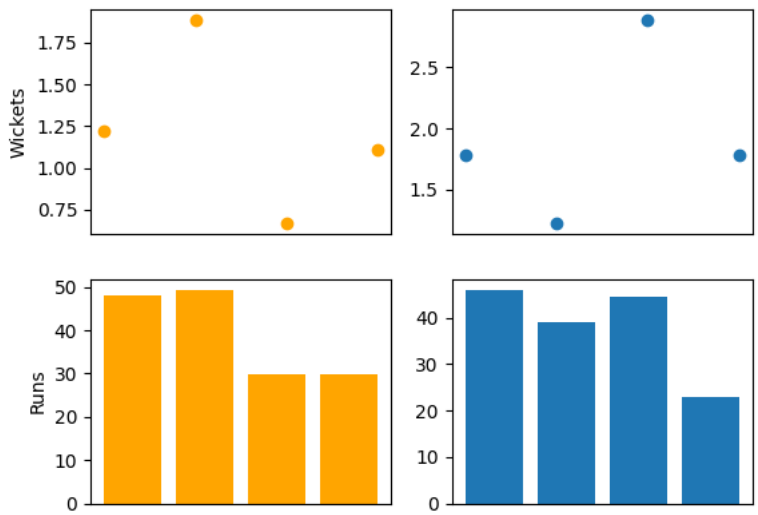
```
df8
```

Out[51]:

	Matches	Averages
0	Bat1_Over1to6_Runs	48.000000
1	Bat2_Over1to6_Runs	49.444444
2	Bat1_Over7to10_Runs	29.888889
3	Bat2_Over7to10_Runs	29.888889

In [83]:

```
x = df8["Matches"]
y = df8["Averages"]
plt.subplot(2,2,3)
plt.bar(x,y, color="orange")
plt.ylabel("Runs")
plt.xticks(x, rotation='vertical')

frame1 = plt.gca()
frame1.axes.get_xaxis().set_visible(False)


x = df9["Matches"]
y = df9["Averages"]
plt.subplot(2,2,4)
plt.bar(x,y)
plt.xticks(x, rotation='vertical')

frame1 = plt.gca()
frame1.axes.get_xaxis().set_visible(False)


x = df10["Matches"]
y = df10["Averages"]
plt.subplot(2,2,1)
plt.scatter(x,y,color= "orange")
plt.ylabel("Wickets")
plt.xticks(x, rotation='vertical', size =5)

frame1 = plt.gca()
frame1.axes.get_xaxis().set_visible(False)


x = df11["Matches"]
y = df11["Averages"]
plt.subplot(2,2,2)
plt.scatter(x,y)
plt.xticks(x, rotation='vertical',size =5)

frame1 = plt.gca()
frame1.axes.get_xaxis().set_visible(False)


plt.show()
```



In [ ]:

```

```