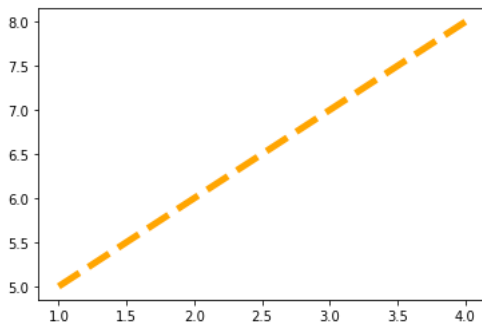


```
# this is the learning lesson of matplotlib Python Library
# for visualisation we create our own dataset
```

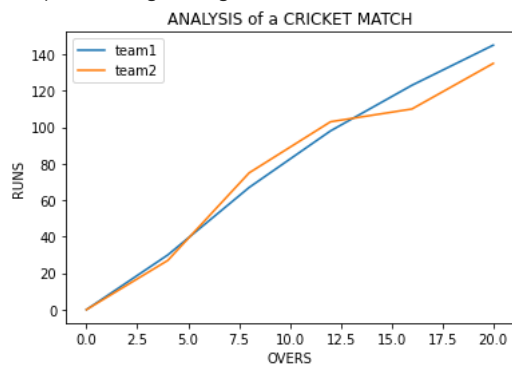
```
import matplotlib.pyplot as plt
a= [1,2,3,4]
b= [5,6,7,8]
plt.plot(a,b,c = 'Orange',linewidth = 5,linestyle = 'dashed')
```

[<matplotlib.lines.Line2D at 0x7fb08f03e0d0>]

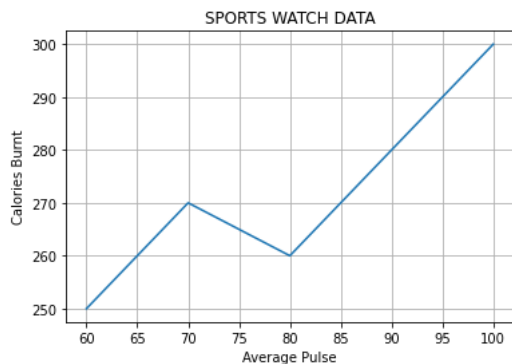


```
# Create 2 lines in a single graph for overs vs team1 and overs vs team2
overs = [0,4,8,12,16,20]
team1 = [0,30,67,98,123,145]
team2 = [0,27,75,103,110,135]
plt.plot(overs,team1,label = 'team1')
plt.plot(overs,team2,label = 'team2')
plt.title('ANALYSIS of a CRICKET MATCH')
plt.xlabel('OVERS')
plt.ylabel('RUNS')
plt.legend()
```

<matplotlib.legend.Legend at 0x7fb08f028fd0>



```
# SPORTS WATCH DATA
import numpy as np
x = np.array([60,70,80,90,100])
y = [250,270,260,280,300]
plt.plot(x,y)
plt.title('SPORTS WATCH DATA')
plt.xlabel('Average Pulse')
plt.ylabel('Calories Burnt')
plt.grid()
```



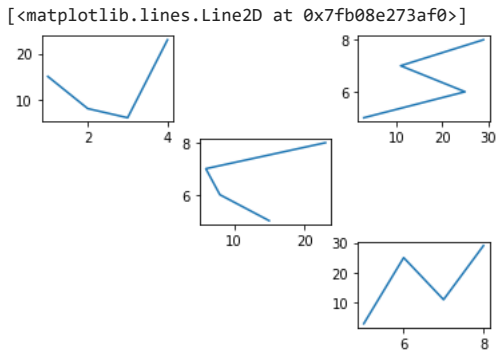
```
#2.SUB PLOT
#this create a graph
fig = plt.figure()
```

```
ax1 =fig.add_subplot(331)
ax2 =fig.add_subplot(339)
ax3 =fig.add_subplot(335)
ax4 =fig.add_subplot(333)
```

```
# to put data inside the subplots
```

```
x1 = [1,2,3,4]
x2 = [5,6,7,8]
y1 = np.random.randint(0,30,4)
y2 = np.random.randint(0,30,4)
```

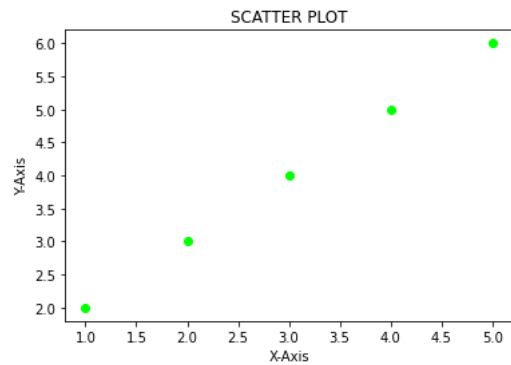
```
ax1.plot(x1,y1)
ax2.plot(x2,y2)
ax3.plot(y1,x2)
ax4.plot(y2,x2)
```



```
#3. SCATTER PLOT
```

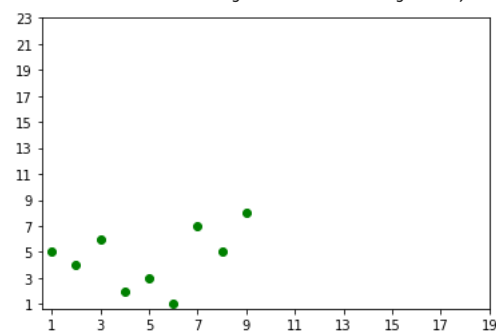
```
a = [1,2,3,4,5]
b = [2,3,4,5,6]
plt.scatter(a,b,color = 'lime')
plt.title('SCATTER PLOT')
plt.xlabel('X-Axis')
plt.ylabel('Y-Axis')
```

```
Text(0, 0.5, 'Y-Axis')
```

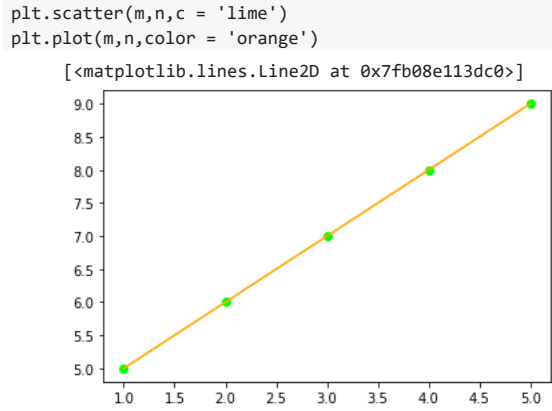


```
a = np.array([1,2,3,4,5,6,7,8,9])
b = [5,4,6,2,3,1,7,5,8]
plt.scatter(a,b,c = 'green')
plt.xticks(range(1,20,2)) #to change the scale of x axis
plt.yticks(range(1,25,2)) #to change the scale of y axis
```

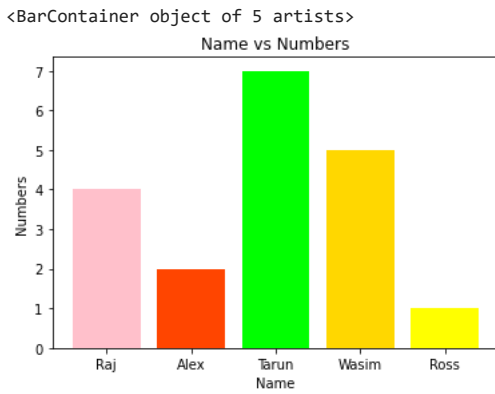
```
([<matplotlib.axis.YTick at 0x7fb08e195490>,
<matplotlib.axis.YTick at 0x7fb08e195070>,
<matplotlib.axis.YTick at 0x7fb08e193070>,
<matplotlib.axis.YTick at 0x7fb08e145d30>,
<matplotlib.axis.YTick at 0x7fb08e149280>,
<matplotlib.axis.YTick at 0x7fb08e149790>,
<matplotlib.axis.YTick at 0x7fb08e149ca0>,
<matplotlib.axis.YTick at 0x7fb08e1498b0>,
<matplotlib.axis.YTick at 0x7fb08e145940>,
<matplotlib.axis.YTick at 0x7fb08e13f970>,
<matplotlib.axis.YTick at 0x7fb08e14e310>,
<matplotlib.axis.YTick at 0x7fb08e14e820>],
<a list of 12 Text major ticklabel objects>)
```



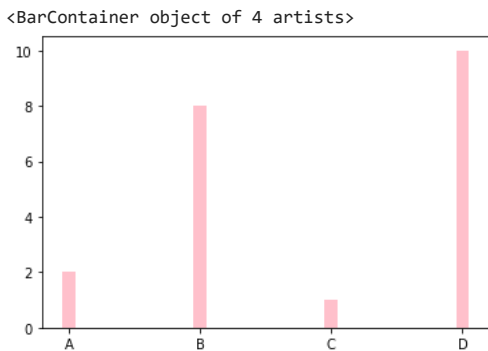
```
m = [1,2,3,4,5]
n = [5,6,7,8,9]
```



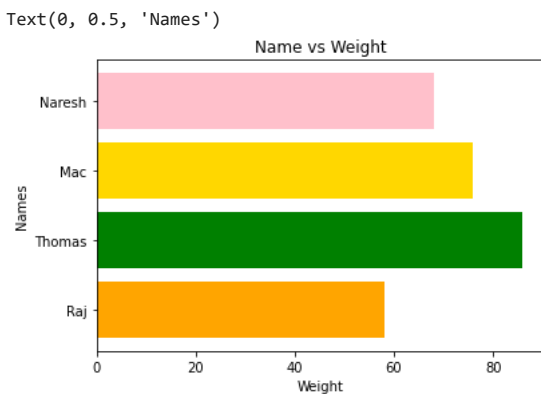
```
#4.BAR PLOT/GRAPH
name = ['Raj','Alex','Tarun','Wasim','Ross']
num = [4,2,7,5,1]
plt.title('Name vs Numbers')
plt.xlabel('Name')
plt.ylabel('Numbers')
plt.bar(name,num,color = ['pink','orangered','lime','Gold','yellow'])
```



```
x = np.array(['A','B','C','D'])
y = np.array([2,8,1,10])
plt.bar(x,y,color = 'pink',width = 0.1)
```



```
name = ['Raj','Thomas','Mac','Naresh']
weight = [58,86,76,68]
plt.barh(name,weight,color = ['Orange','g','gold','pink'])
plt.title('Name vs Weight')
plt.xlabel('Weight')
plt.ylabel('Names')
```



```
= [10,25,16,37]  
= ['Maruti','Ford','Volvo3,0'])o', 'Mahindra']  
e(sales,labels = brands,colors = ['pink','Gold','Crimson','Orange'],explode = [0.1,0,3,0])
```

```
([<matplotlib.patches.Wedge at 0x7fb08df8c310>,  
<matplotlib.patches.Wedge at 0x7fb08df8c7c0>,  
<matplotlib.patches.Wedge at 0x7fb08df8cc40>,  
<matplotlib.patches.Wedge at 0x7fb08df9c100>],  
[Text(1.1243396655380051, 0.4193570274812222, 'Maruti'),  
Text(-0.039261581257943434, 1.0992991077214271, 'Ford'),  
Text(-4.089553676125892, 0.29249056409602353, 'Volvo3,0')o'),  
Text(0.27203714607371426, -1.0658310331173835, 'Mahindra')])
```



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