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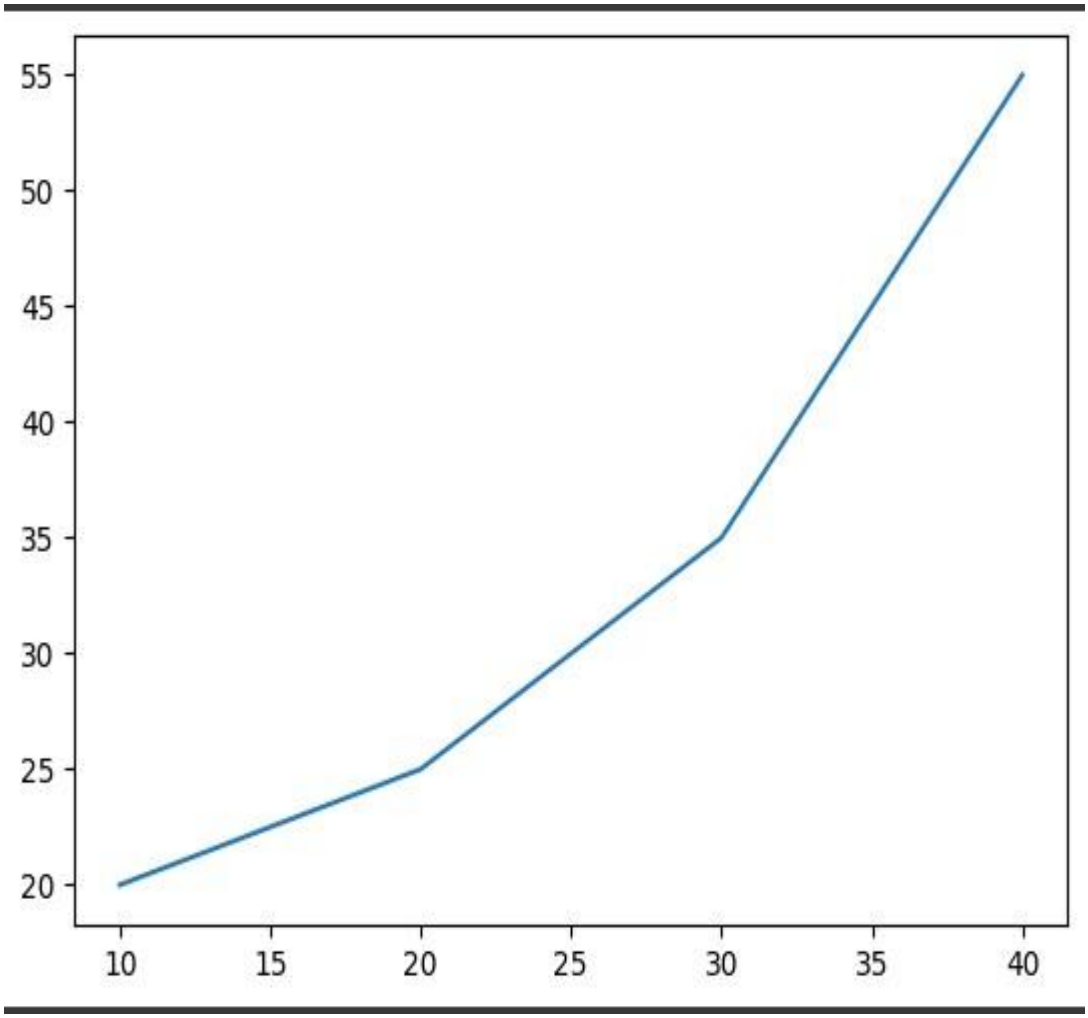
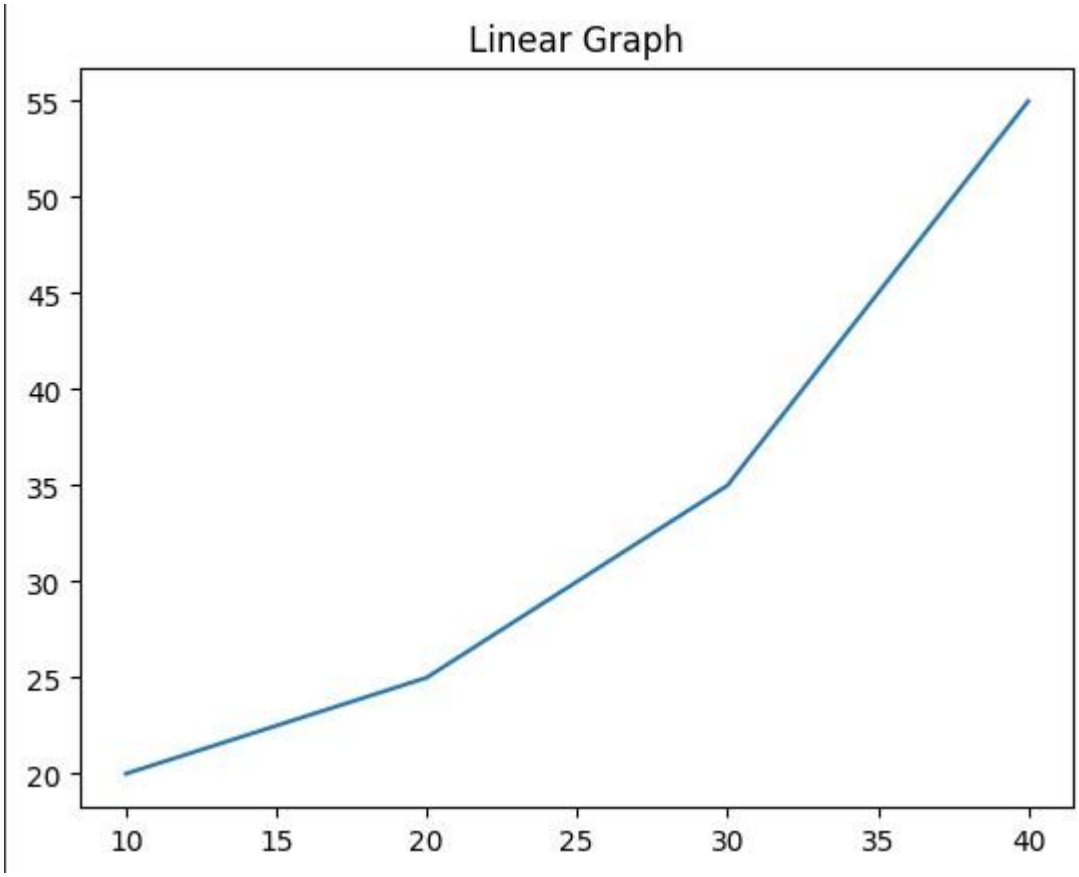
Division: G(G4)

Assignment 5 :

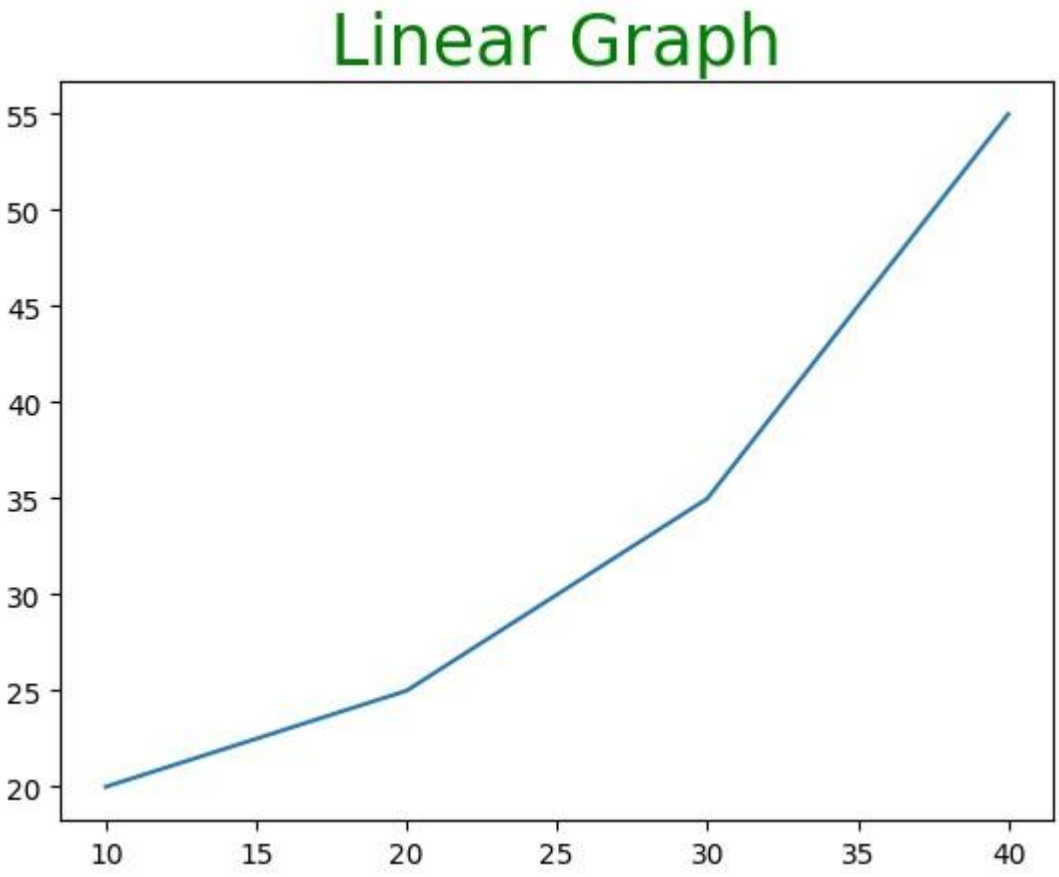
```
import matplotlib.pyplot as plt

#initializing the data
x=[10,20,30,40]
y=[20,25,35,55]

#plotting the data
plt.plot(x,y)

plt.show()
```




```
#Adding title
#Initializing the data
x=[10,20,30,40]
y=[20,25,35,55]

#plotting the data
plt.plot(x,y)

#Adding title to the plot
plt.title("Linear Graph")

plt.show()
```

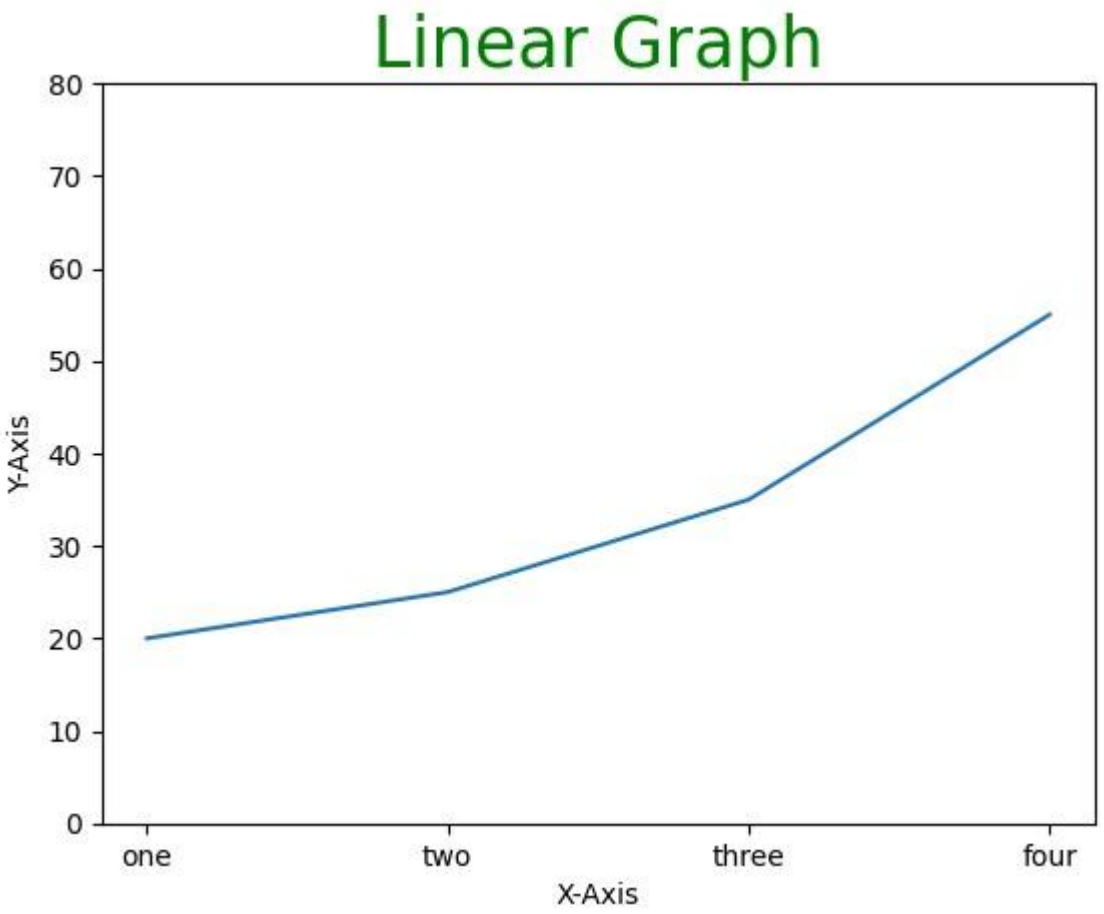



```
#Change the appearance of the title
import matplotlib.pyplot as plt
#Initializing the data
x=[10,20,30,40]
y=[20,25,35,55]

#plotting the data
plt.plot(x,y)

#Adding title to the plot
plt.title("Linear Graph",fontsize=25,color="green")

plt.show()
```



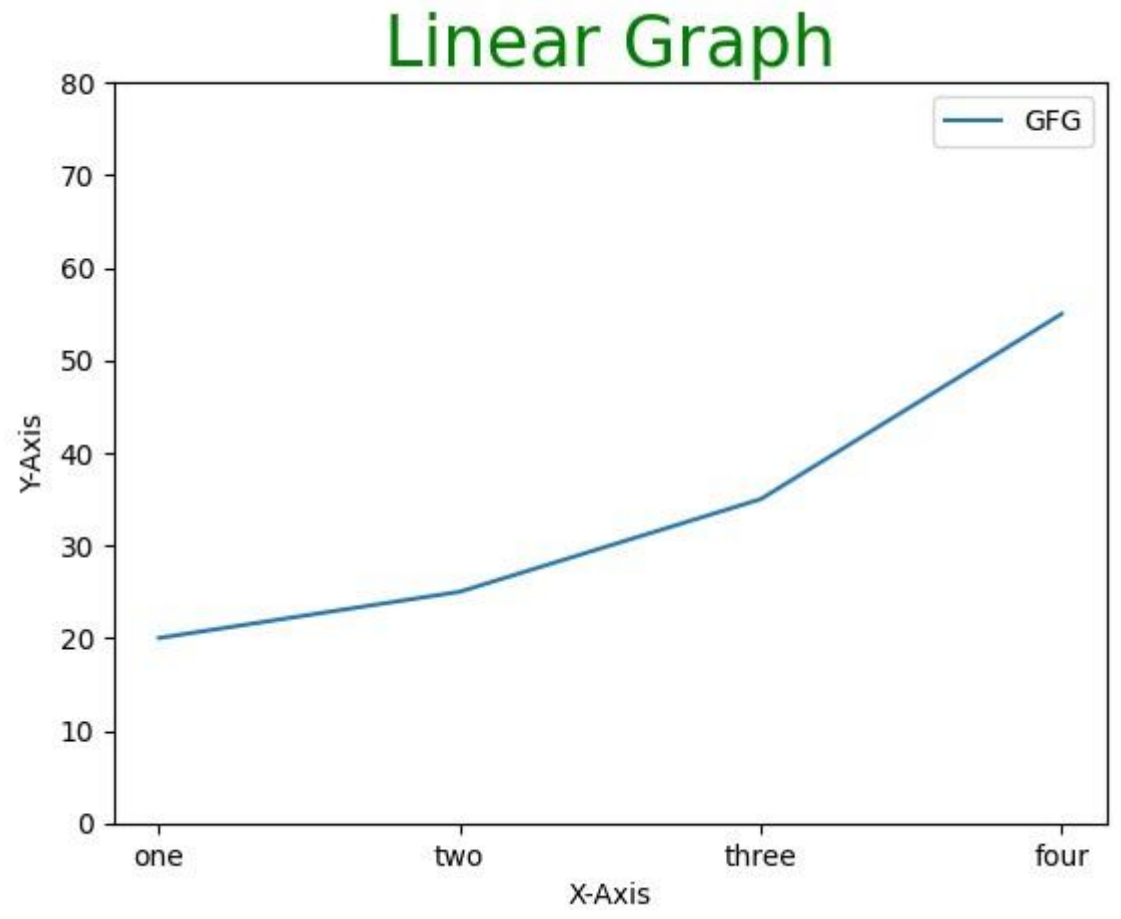

```
#Setting Limits and Tick labels
import matplotlib.pyplot as plt
#Initializing the data
x=[10,20,30,40]
y=[20,25,35,55]

#plotting the data
plt.plot(x,y)

#Adding title to the plot
plt.title("Linear Graph",fontsize=25,color="green")

#Adding label on the y-axis
plt.ylabel('Y-Axis')

#Adding label on the x-axis
plt.xlabel('X-Axis')

#Setting the limit of y axis
plt.ylim(0,80)

#Setting the labels of x-axis
```

```
plt.xticks(x,labels=["one","two","three","four"])

plt.show()
```



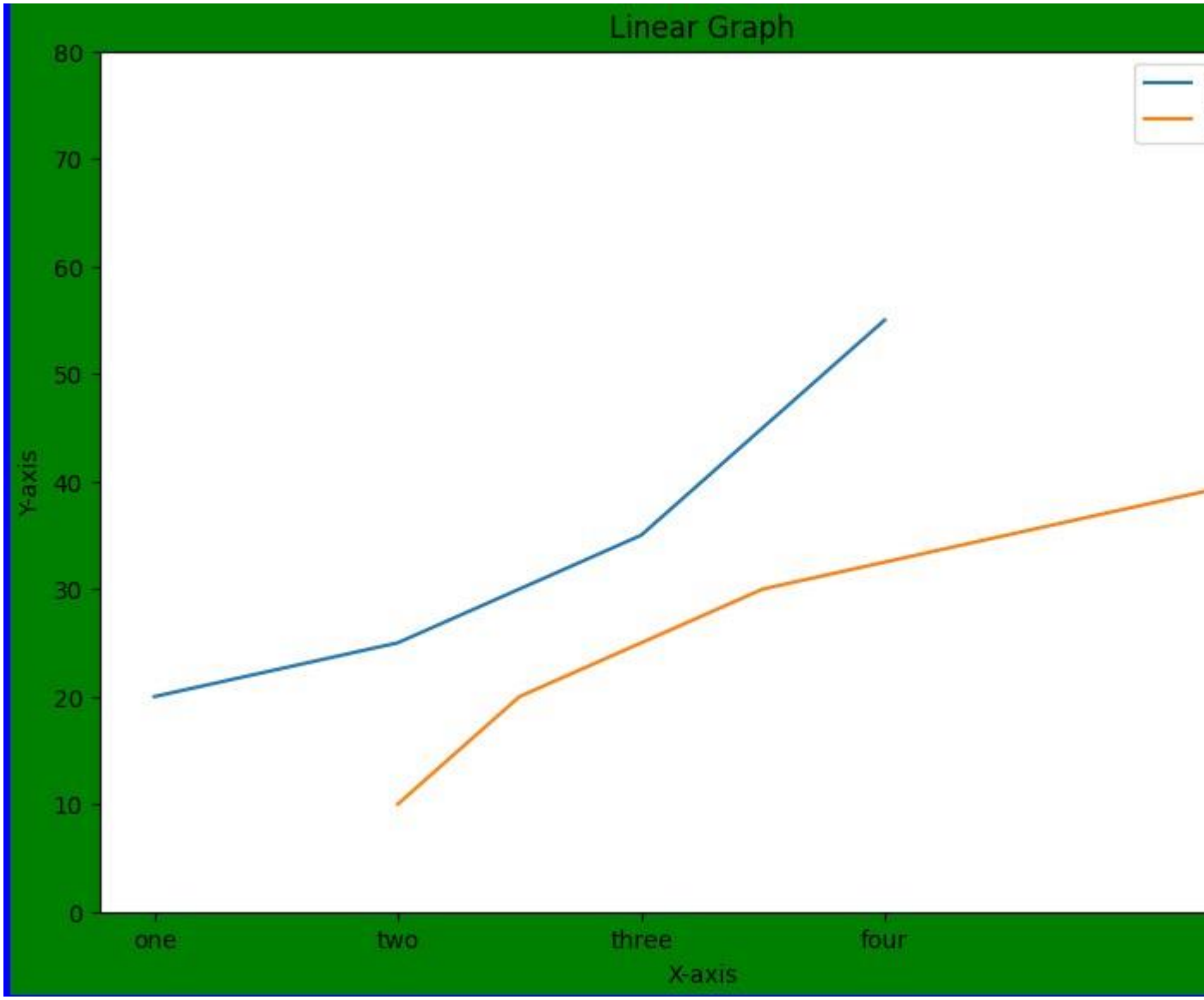

```
#Adding Legends
import matplotlib.pyplot as plt
#Initializing the data
x=[10,20,30,40]
y=[20,25,35,55]

#plotting the data
plt.plot(x,y)

#Adding title to the plot
plt.title("Linear Graph",fontsize=25,color="green")

#Adding label on the y-axis
plt.ylabel('Y-Axis')

#Adding label on the x-axis
```

```
plt.xlabel('X-Axis')

#Setting the limit of y axis
plt.ylim(0,80)

#Setting the labels of x-axis
plt.xticks(x,labels=["one","two","three","four"])

#Adding Legends
plt.legend(["GFG"])

plt.show()
```

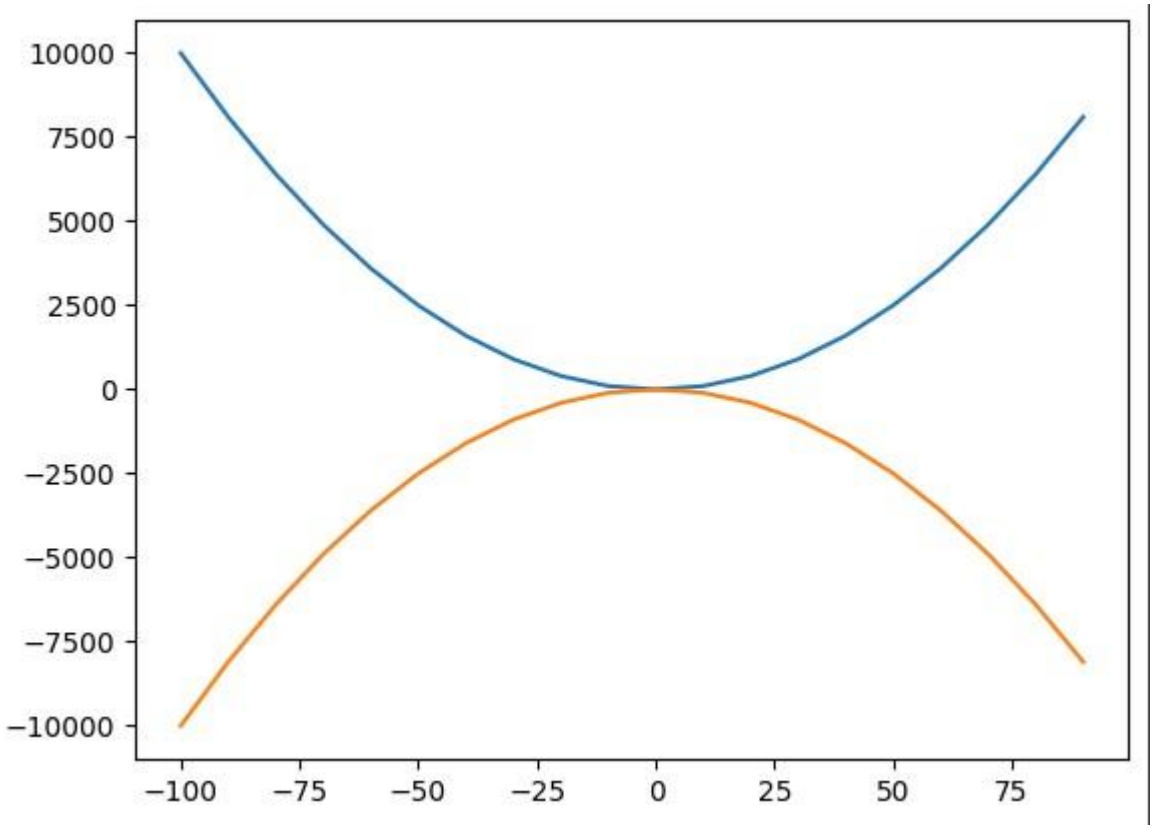



```
#Figure Class
#Python program to show pyplot module
import matplotlib.pyplot as plt
from matplotlib.figure import Figure

#Initializing the data
x=[10,20,30,40]
```

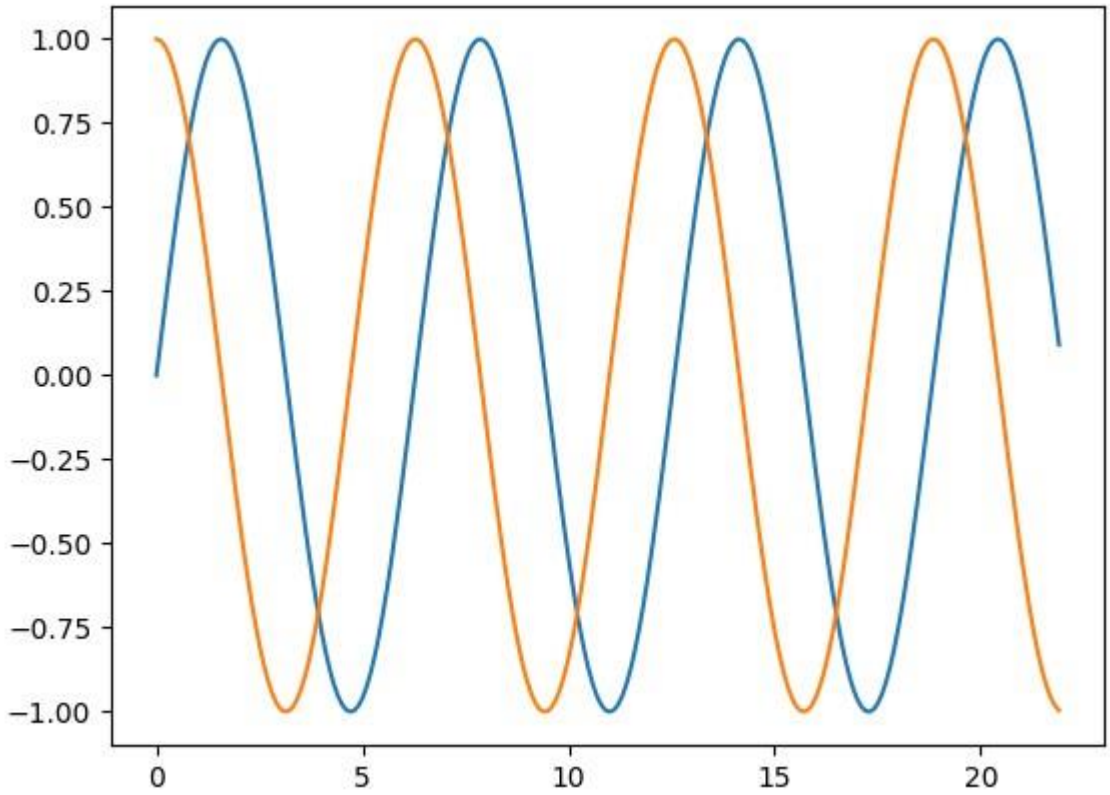
```
y=[20,25,35,55]

#Creating a new figure with width = 7inches
#and height = 5inches with face color as
#green,edgecolor as red and the line width
#of the edge as 7
fig = plt.figure(figsize=(7,5), facecolor='g',
edgecolor='b',linewidth=7)

#Creating a new axes for the figure
ax = fig.add_axes([1,1,1,1])

#Adding the data to be plotted
ax.plot(x,y)

#Adding title to the plot
plt.title("Linear Graph",fontsize=25,color="black")

#Adding label on the y-axis
plt.ylabel('Y-Axis')

#Adding label on the x-axis
plt.xlabel('X-Axis')

#Setting the limit of y axis
plt.ylim(0,80)

#Setting the labels of x-axis
plt.xticks(x,labels=["one","two","three","four"])

#plotting the 2nd dataset to the figure
ax2 = ax.plot(y,x)

#Setting title
ax.set_title("Linear Graph")


#Setting label
ax.set_xlabel("X-axis")
ax.set_ylabel("Y-axis")

#Adding Legends
plt.legend(["Line1","Line 2"])

plt.show()
```



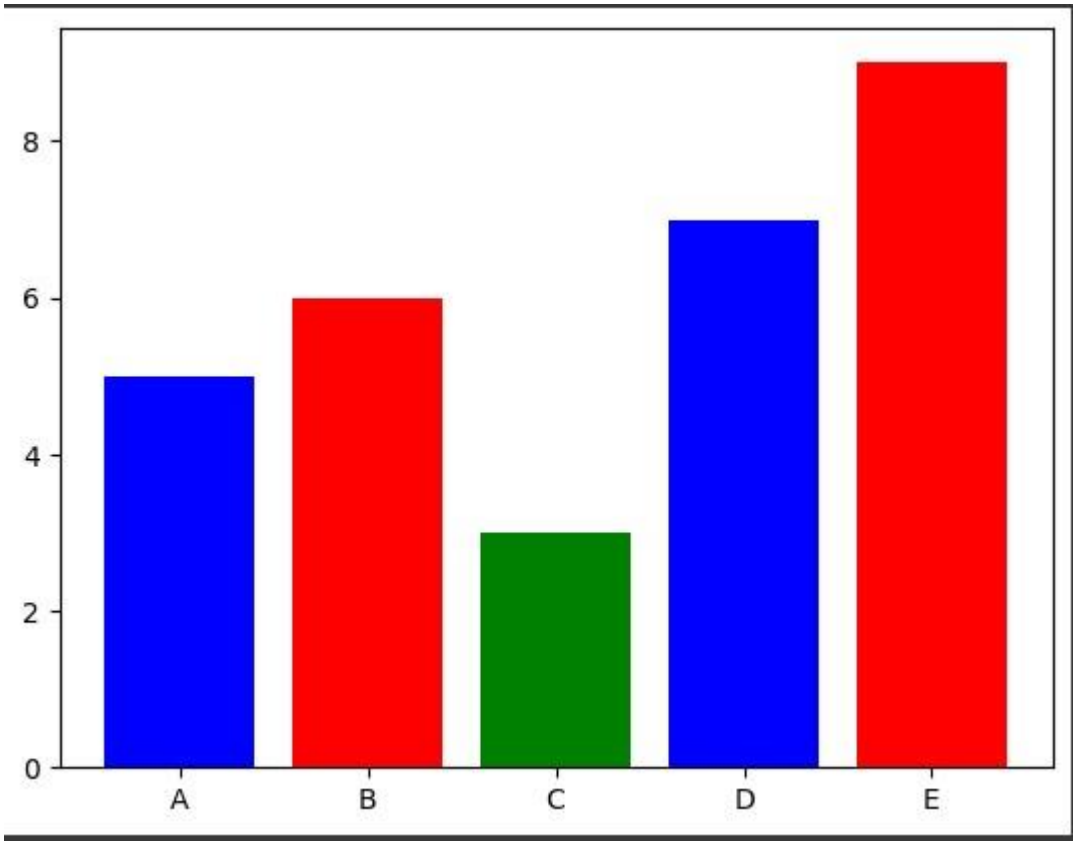

```
import matplotlib.pyplot as plt
y1=[]
y2=[]
x= range(-100,100,10)
for i in x: y1.append(i**2)
for i in x: y2.append(-i**2)

plt.plot(x,y1)
plt.plot(x,y2)

plt.show()
```



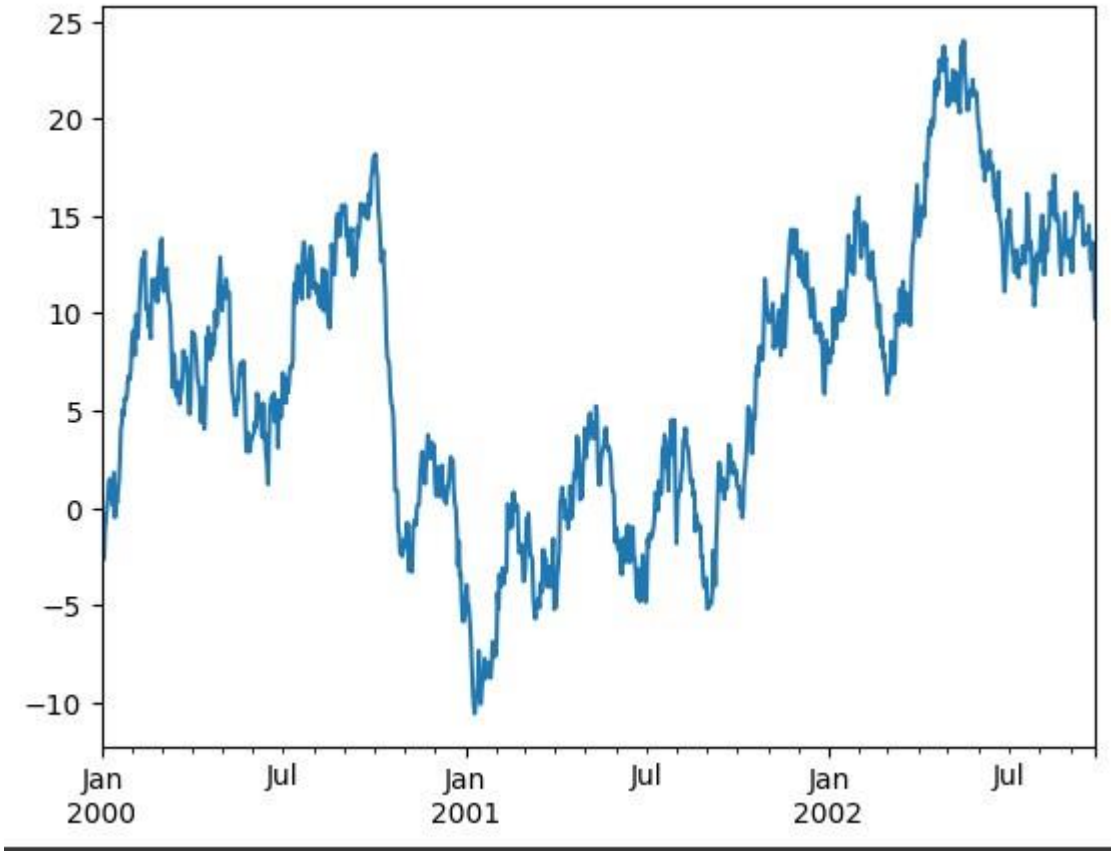

```
import numpy as np
x=np.arange(0,7*np.pi,0.1)
y=np.sin(x)
y1=np.cos(x)
plt.plot(x,y)
plt.plot(x,y1)
plt.show()
```



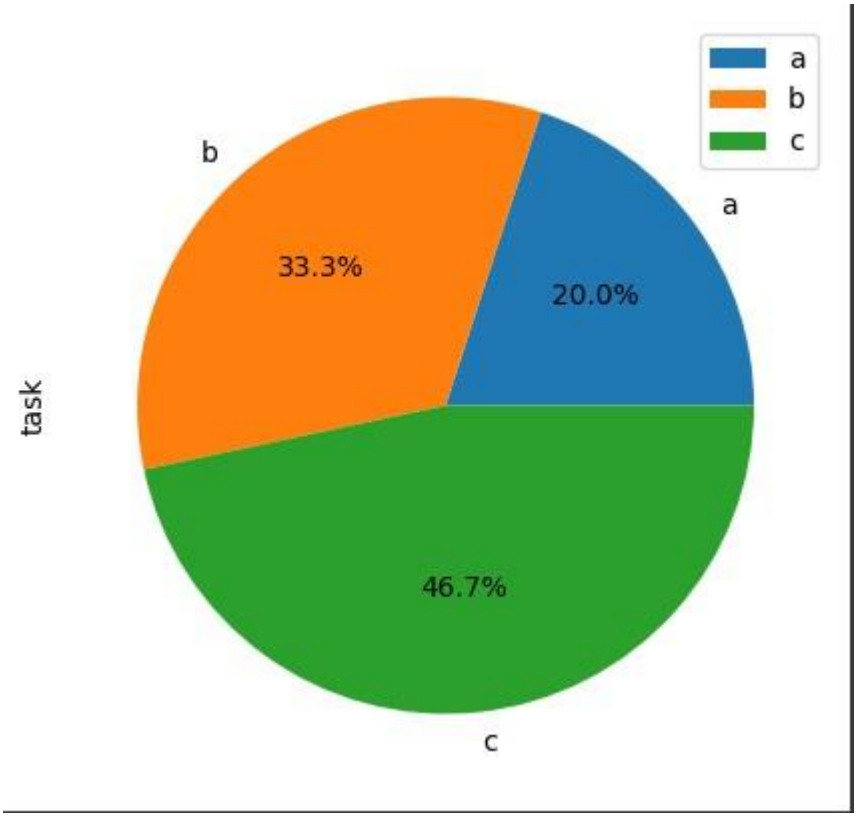

```
import pandas as pd

values=[5,6,3,7,9]
names=["A","B","C","D","E"]
c1=['b','r','g']
plt.bar(names,values,color=c1)
plt.show()
```



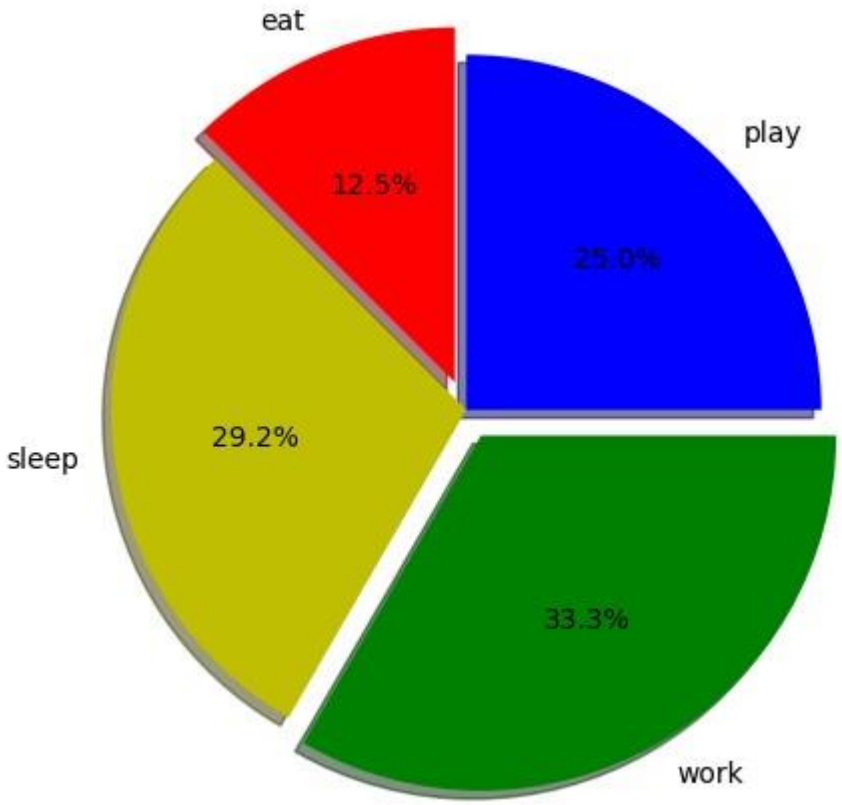

```
import pandas as pd
#print ts
ts=pd.Series(np.random.randn(1000),index=pd.date_range("1/1/2000",perio
ds=1000))
ts=ts.cumsum()
#print(ts)
ts.plot()
```




```
data={'task':[300,500,700]}
df =pd.DataFrame(data,index=["a","b","c"])
df.plot.pie(y='task',figsize=(5,5),autopct='%1.1f%%',startangle=0)
print(df)
```




```
#defining labels
activities = ['eat','sleep','work','play']

#portion covered by each label
slices = [3,7,8,6]
colors = ['r','y','g','b']
plt.pie(slices, labels = activities, colors=colors,
startangle = 90, shadow = True , explode = (0.1,0,0.1,0),
radius = 1.2, autopct = '%1.1f%%')
```


eat
12.5%
play
25.0%
sleep
29.2%
33.3%
work