

Matplotlib

In [1]:

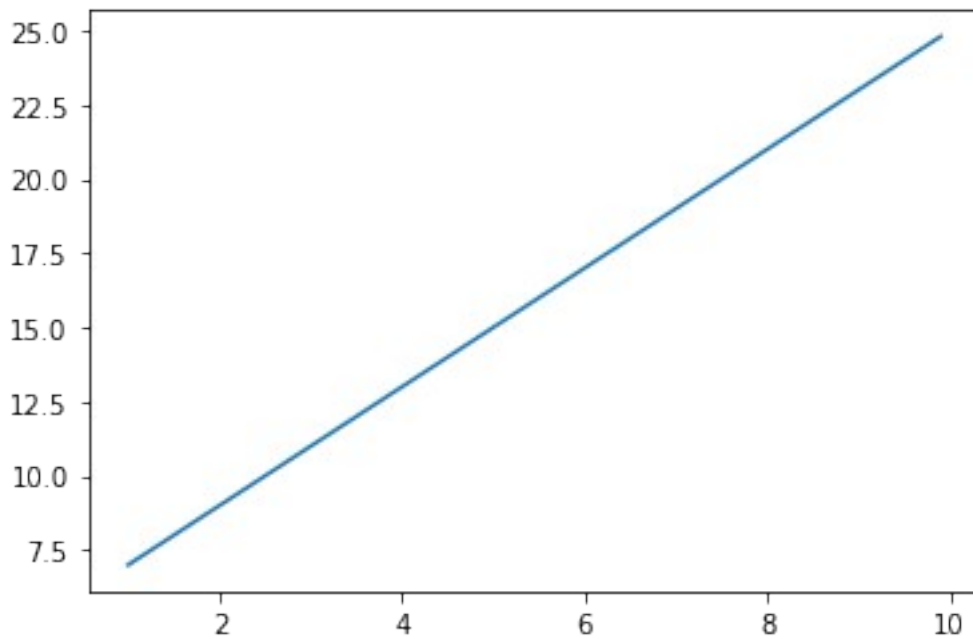
```
from matplotlib import pyplot as plt
import numpy as np
```

In [33]:

```
import numpy as np
x=np.arange(1,10,0.1)
y=2*x+5
```

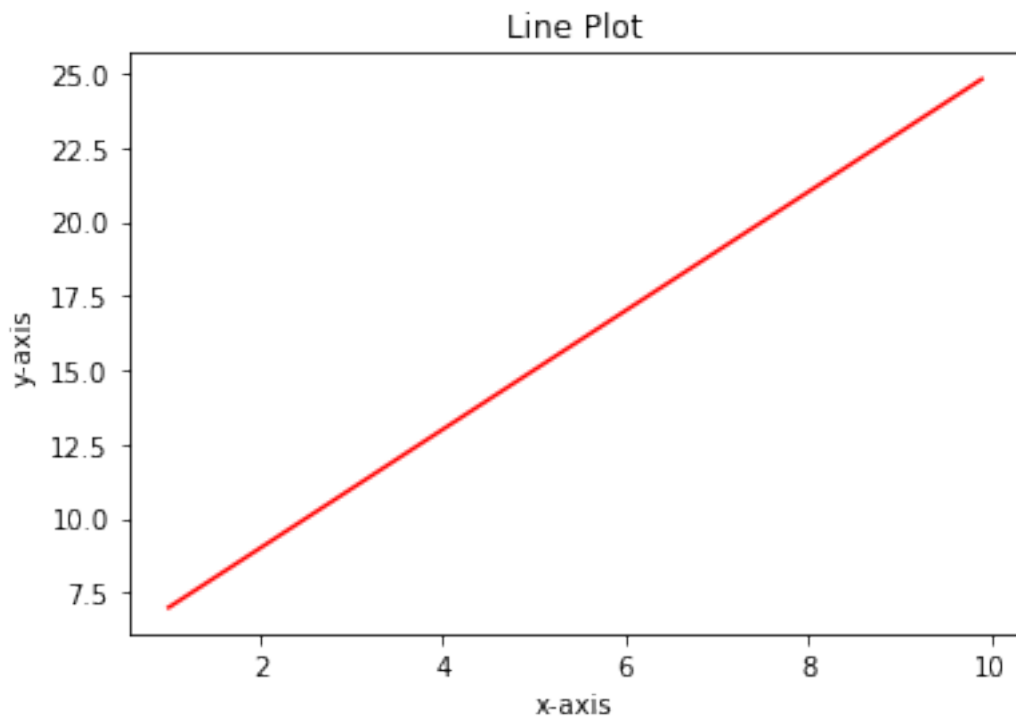
In [34]:

```
plt.plot(x,y)
plt.show()
```



In [4]:

```
import numpy as np
x=np.arange(1,10,0.1)
y=2*x+5
plt.plot(x,y,color='r')
plt.title('Line Plot')
plt.xlabel('x-axis')
plt.ylabel('y-axis')
plt.show()
```



In [40]:

```
x=np.arange(1,10,0.1)
```

```
y1=2*x+5
```

```
y2=3*x+10
```

```
y3=3*x+5
```

```
y4=2*x+10
```

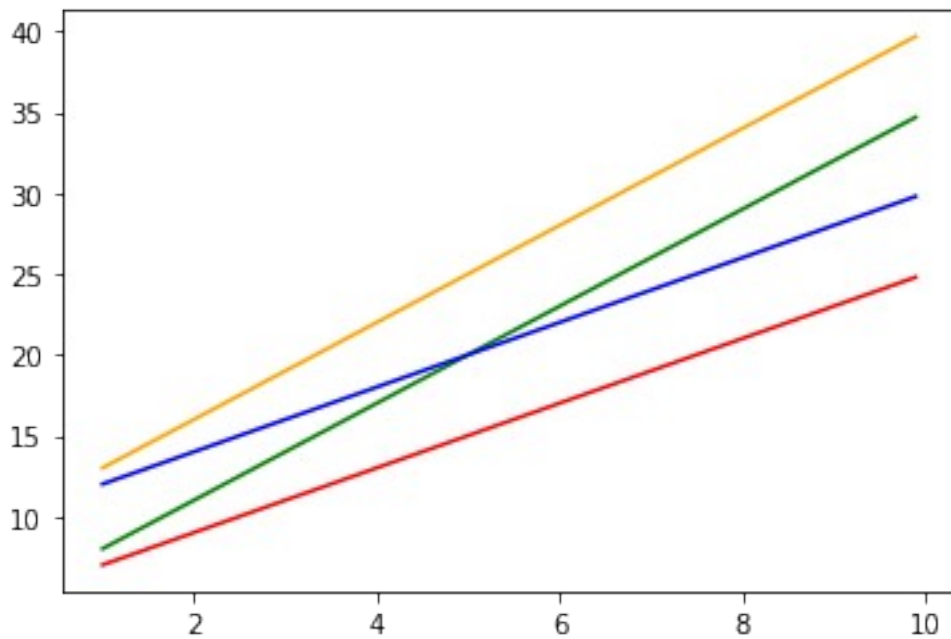
```
plt.plot(x,y1,color='red')
```

```
plt.plot(x,y2,color='orange')
```

```
plt.plot(x,y3,color='green')
```

```
plt.plot(x,y4,color='blue')
```

```
plt.show()
```



BAR PLOT

In [6]:

```
fruit={'apple':30,'mango':45,'banana':10}  
names=list(fruit.keys())  
quantity=list(fruit.values())
```

In [7]:

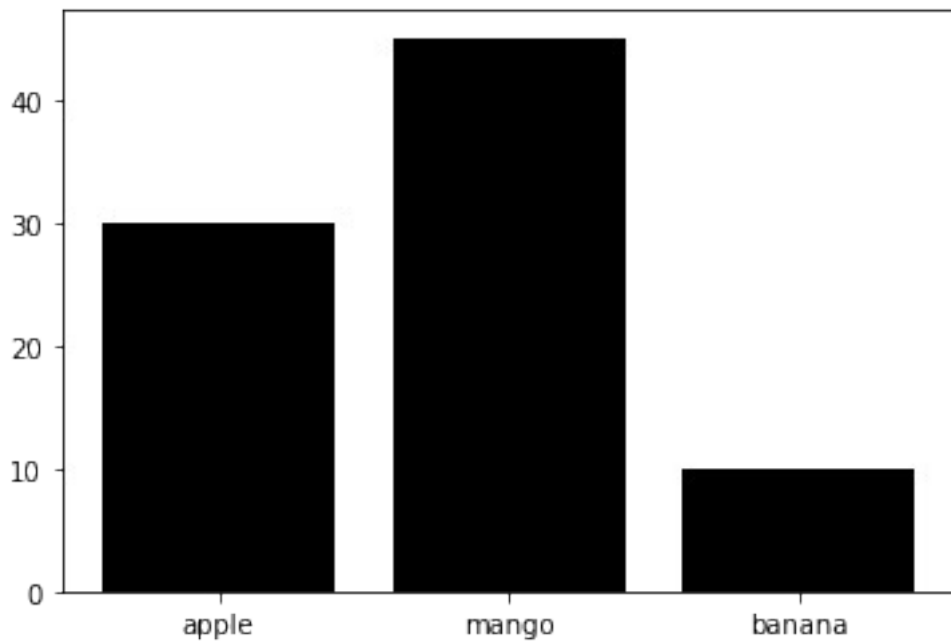
```
names,quantity
```

Out[7]:

```
(['apple', 'mango', 'banana'], [30, 45, 10])
```

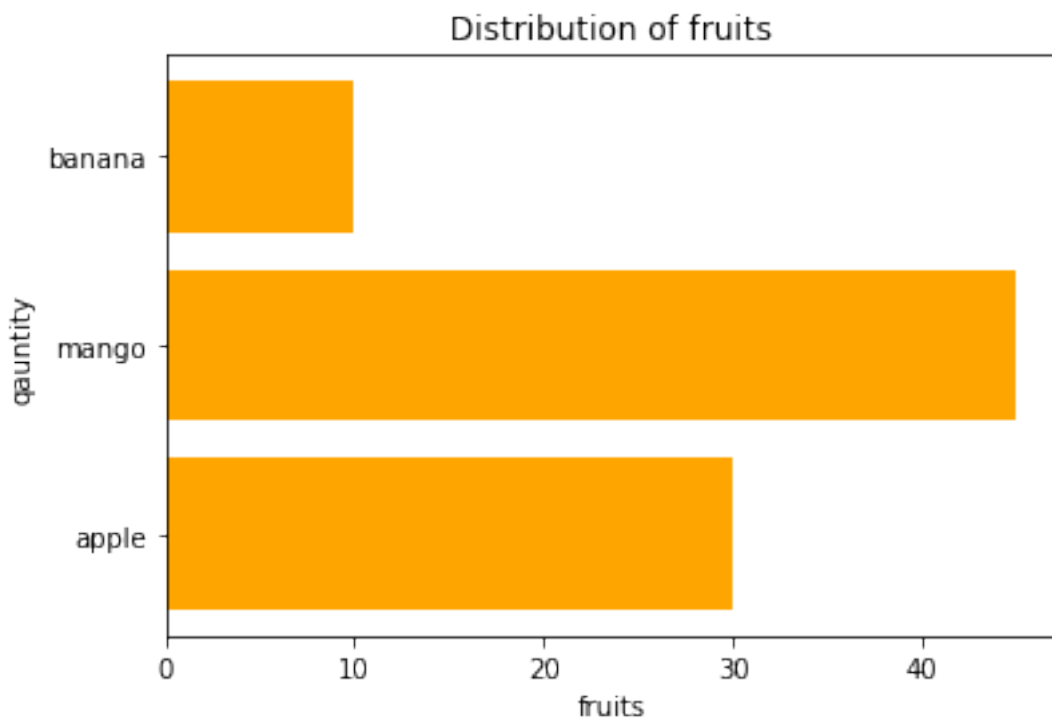
In [45]:

```
plt.bar(names,quantity,color='black')  
plt.show()
```



In [47]:

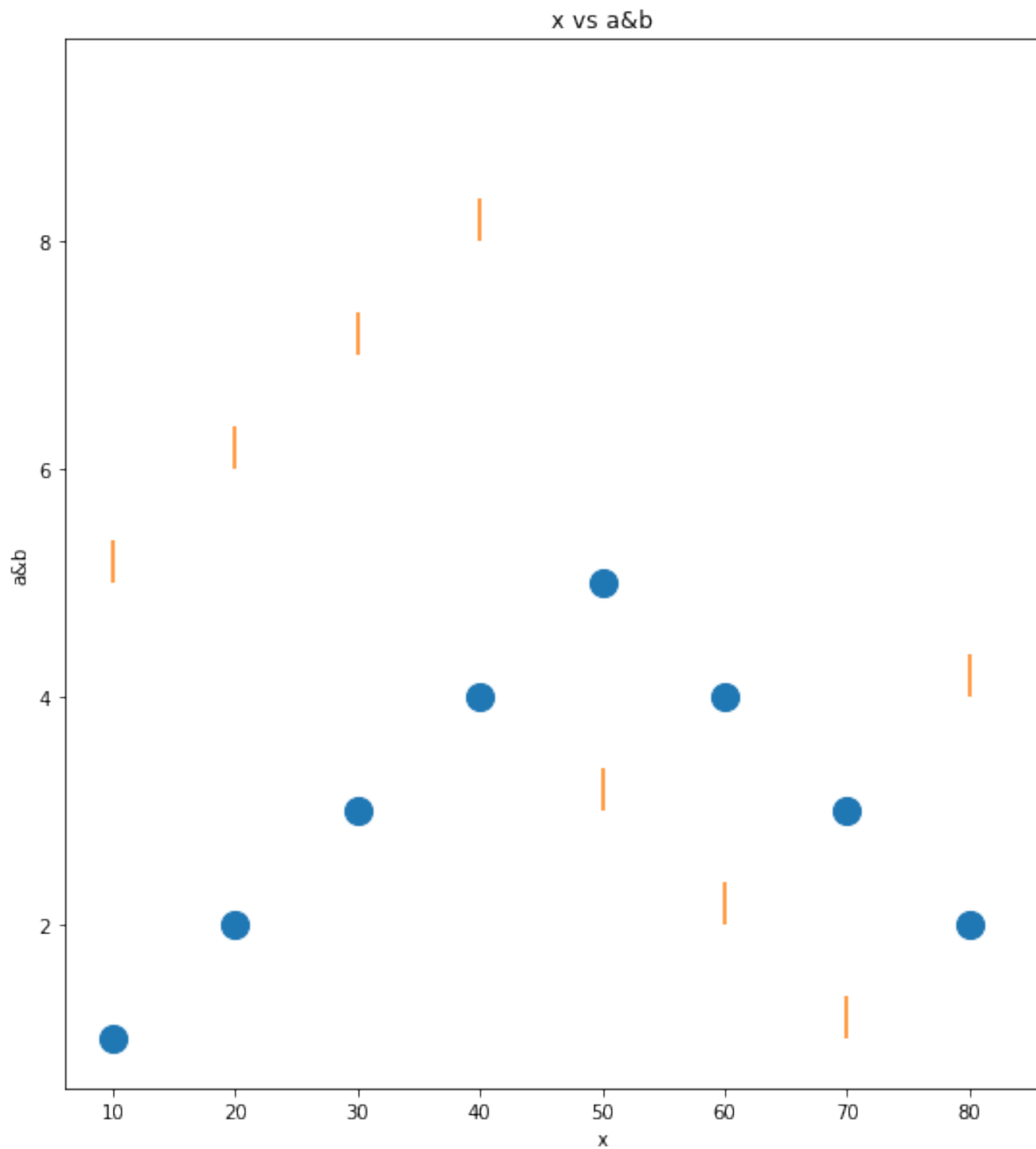
```
#customizing the bar plot
plt.barh(names,quantity,color='orange')
plt.title('Distribution of fruits')
plt.xlabel('fruits')
plt.ylabel('qauntity')
plt.show()
```



In [10]:

```
#customizing scatter
x=[10,20,30,40,50,60,70,80,90]
a=[1,2,3,4,5,4,3,2,9]
b=[5,6,7,8,3,2,1,4,9]
```

```
plt.figure(figsize=(10,10))
plt.scatter(x,a,s=200)
plt.scatter(x,b,s=500,marker=2)
plt.legend(['a','b'])
plt.title('x vs a&b')
plt.xlabel('x')
plt.ylabel('a&b')
plt.show()
```



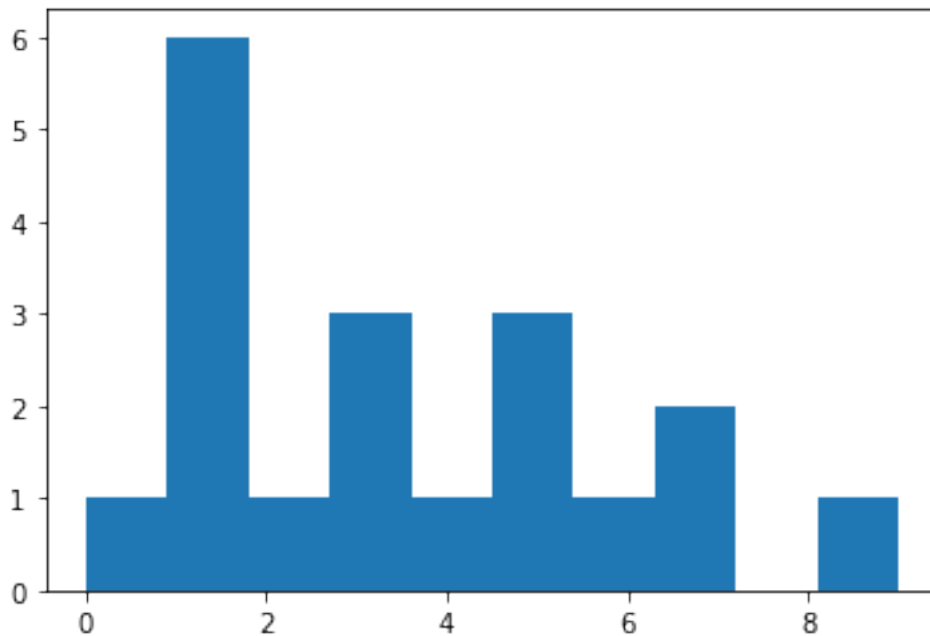
HISTOGRAM¶

In [11]:

```
data=[1,1,1,5,6,3,0,2,7,3,9,1,7,5,4,3,1,1,5]
```

```
plt.hist(data)
```

```
plt.show()
```



In [12]:

```
import pandas as pd
```

In [13]:

```
data=pd.read_csv("E:\college\TY NOTES 20-21\ml\iris data\iris.csv")
```

```
data.head()
```

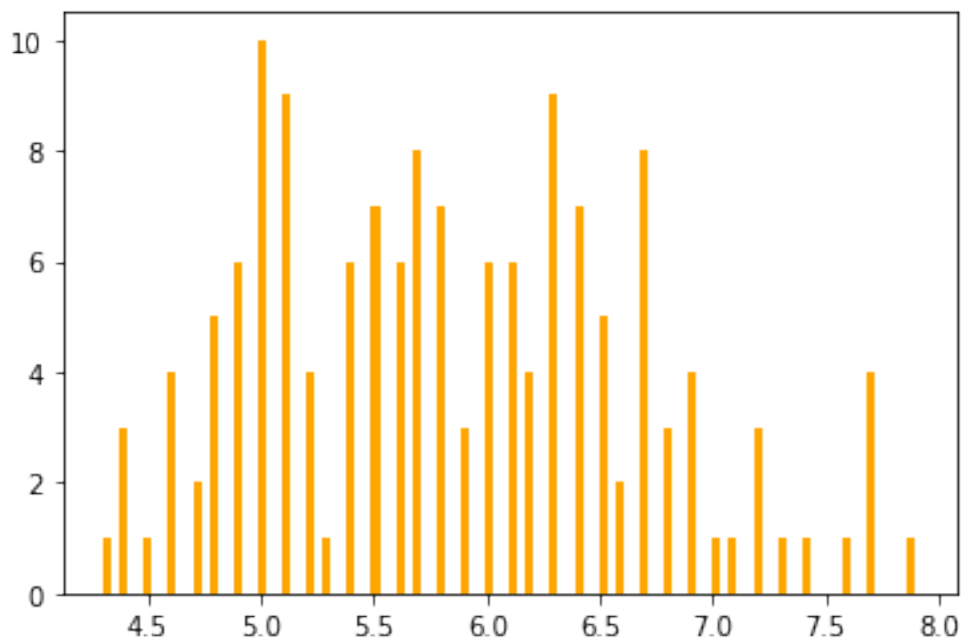
Out[13]:

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa

In [14]:

```
plt.hist(data['sepal_length'],color='orange',bins=100)
```

```
plt.show()
```



BOXPLOT¶

In [15]:

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

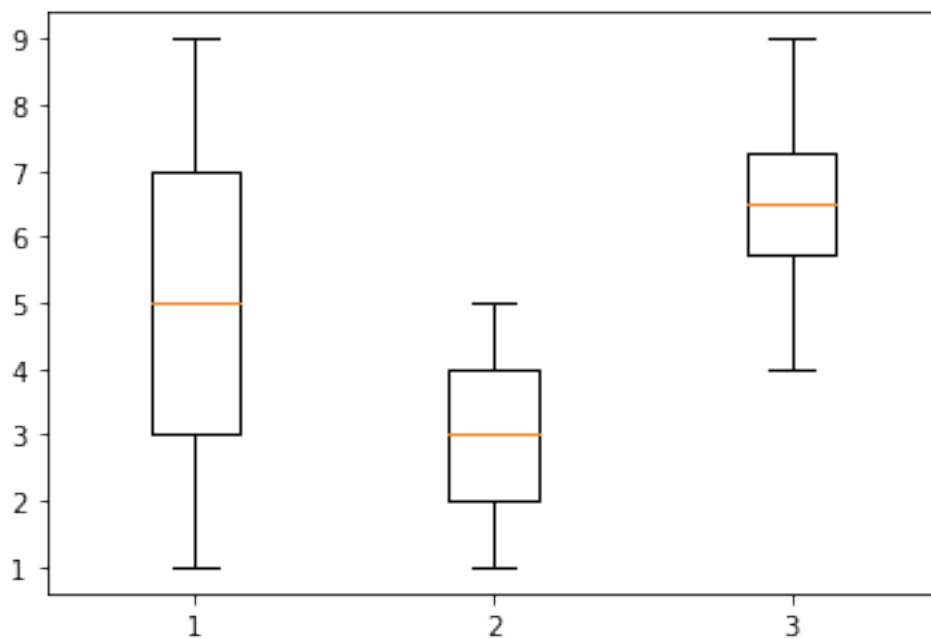
```
two=[1,2,3,4,5,4,3,2,1]
```

```
three=[6,7,8,9,7,6,5,4]
```

```
dataset=list([one,two,three])
```

```
plt.boxplot(dataset)
```

```
plt.show()
```



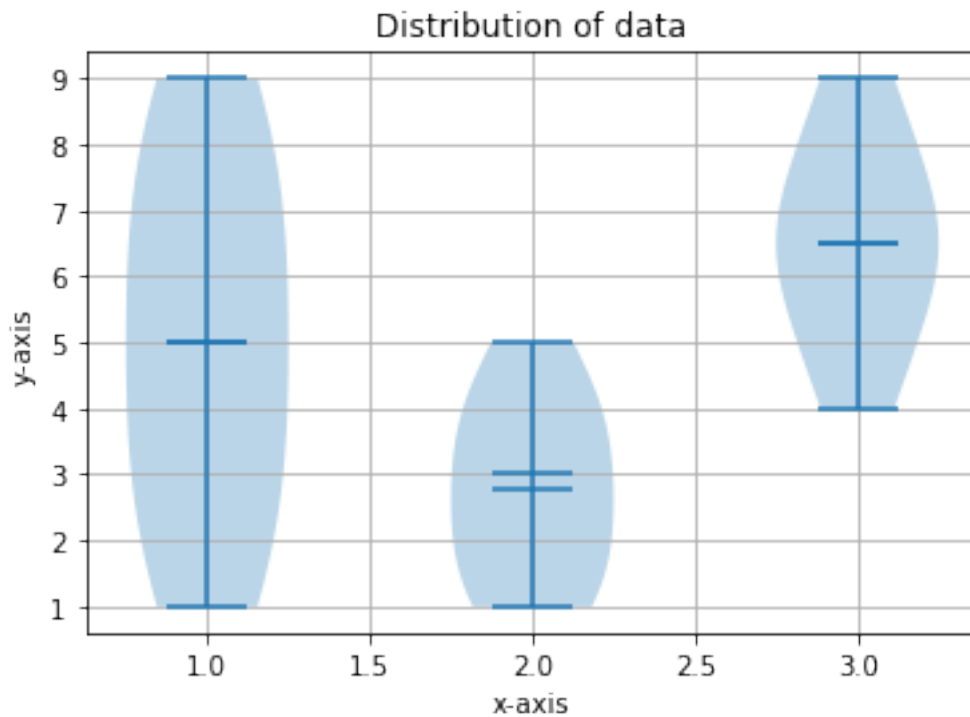
In [16]:

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

```
two=[1,2,3,4,5,4,3,2,1]
```

```
three=[6,7,8,9,7,6,5,4]
```

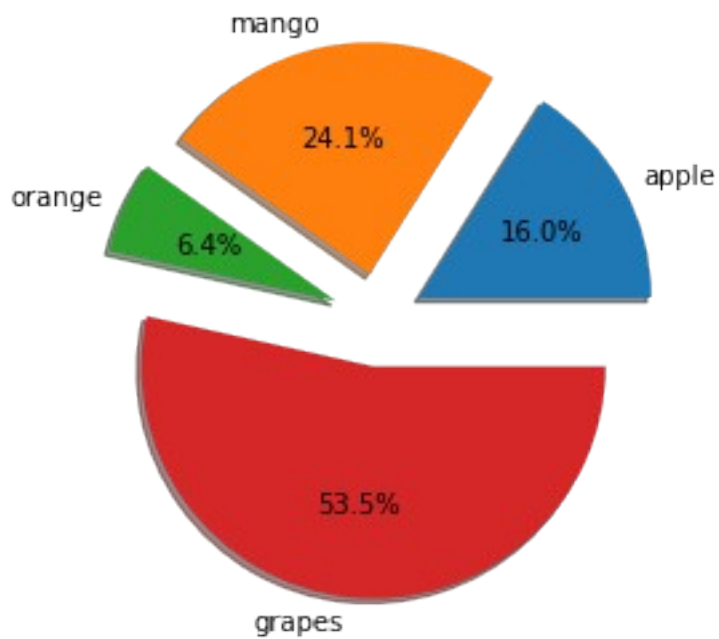
```
dataset=list([one,two,three])  
plt.violinplot(dataset,showmedians='True',showmeans='True')  
plt.grid('True')  
plt.title('Distribution of data')  
plt.xlabel('x-axis')  
plt.ylabel('y-axis')  
  
plt.show()
```



PIECHART¶

In [17]:

```
fruit1=['apple','mango','orange','grapes']  
quantity1=[30,45,12,100]  
  
plt.pie(quantity1,labels=fruit1,autopct='%0.1f%  
%',shadow='True',explode=(0.2,0.2,0.2,0.2))  
plt.show()
```

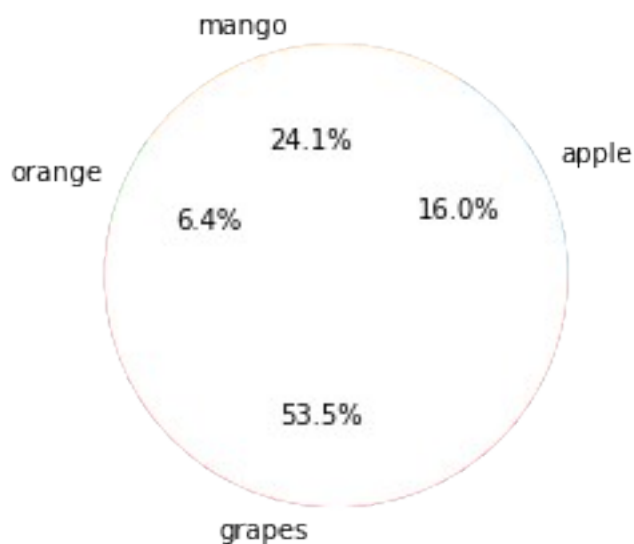



In [21]:

```
fruit1=['apple','mango','orange','grapes']
quantity1=[30,45,12,100]
```

```
pie1=plt.pie(quantity1,labels=fruit1,autopct='%0.1f%%')
pie2=plt.pie([5],colors='white')
```

```
plt.show()
```

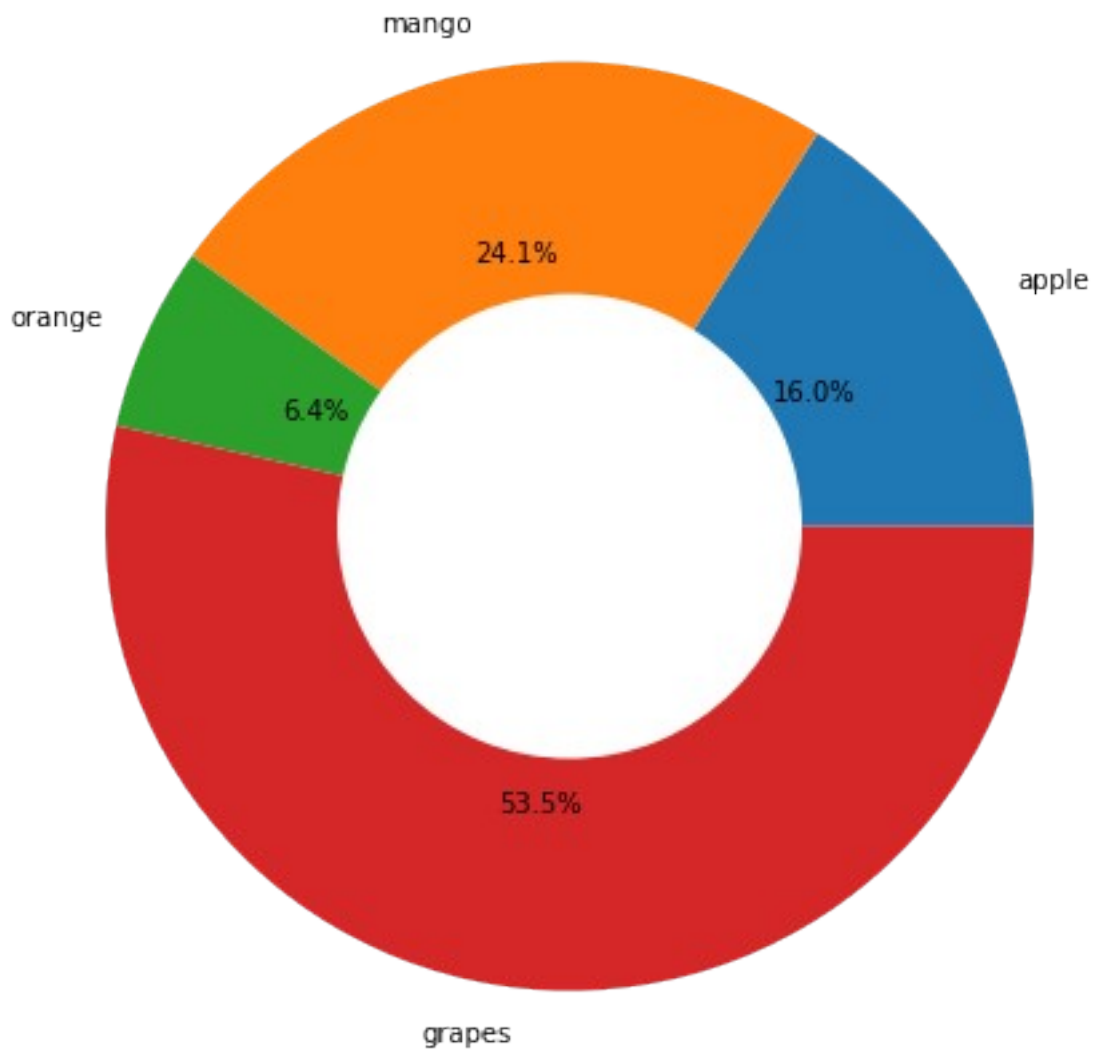


In [19]:

```
fruit1=['apple','mango','orange','grapes']
quantity1=[30,45,12,100]
```

```
pie1=plt.pie(quantity1,labels=fruit1,autopct='%0.1f%%',radius=2)
pie2=plt.pie([5],colors='white',radius=1)
```

```
plt.show()
```



In [24]:

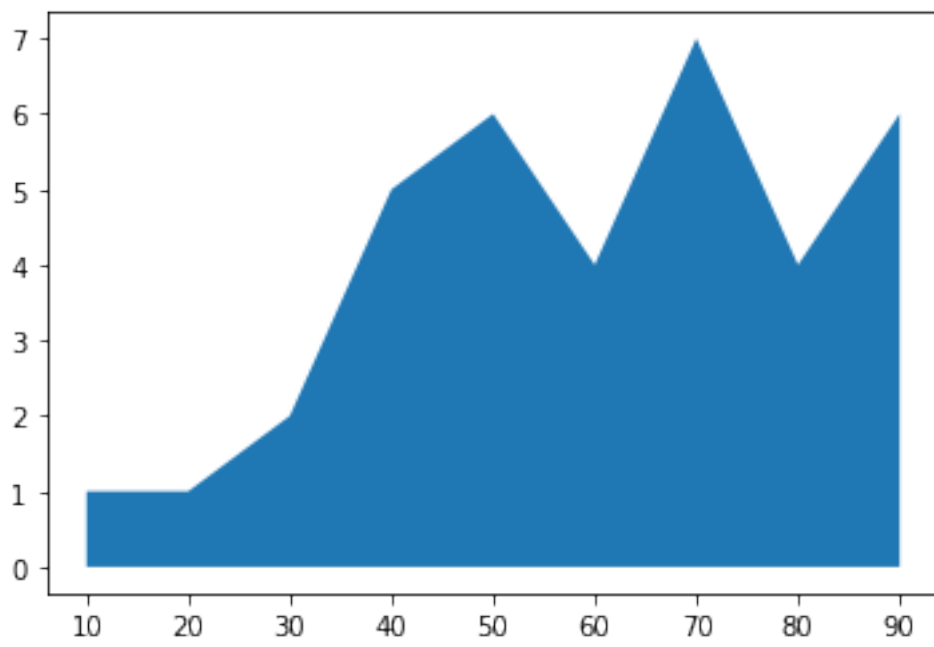
```
#area plot
```

```
x=[10,20,30,40,50,60,70,80,90]
```

```
y=[1,1,2,5,6,4,7,4,6]
```

```
plt.stackplot(x,y)
```

```
plt.show()
```



In []: