

```
[32]: import numpy as np
import matplotlib.pyplot as plt
import pandas as pd
import seaborn as sns
```

```
[43]: dataset = pd.read_csv('User_Data.csv')
```

```
[45]: x=dataset.iloc[:,2,3].values
x
```

```
[45]: array([[ 19, 19000],
 [ 35, 20000],
 [ 26, 43000],
 [ 27, 57000],
 [ 19, 76000],
 [ 27, 58000],
 [ 27, 84000],
 [ 32, 150000],
 [ 25, 33000],
 [ 35, 65000],
 [ 26, 80000],
 [ 26, 52000],
 [ 20, 86000],
 [ 32, 18000],
 [ 18, 82000],
 [ 29, 80000],
 [ 47, 25000],
 [ 45, 26000])
```

```
[47]: y=dataset.iloc[:,4].values
```

```
[51]: from sklearn.model_selection import train_test_split
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.25,random_state=0)

from sklearn.preprocessing import StandardScaler
sc=StandardScaler()
x_train=sc.fit_transform(x_train)
x_test=sc.transform(x_test)
```

```
[54]: print(x_train)
print(x_test)
```

```
[[ 0.58164944 -0.88670699]
 [-0.60673761  1.46173768]
 [-0.01254409 -0.5677824 ]
 [-0.60673761  1.89663484]
 [ 1.37390747 -1.40858358]
 [ 1.47293972  0.99784738]
 [ 0.08648817 -0.79972756]
 [-0.01254409 -0.24885782]
 [-0.21060859 -0.5677824 ]
 [-0.21060859 -0.19087153]
 [-0.30964085 -1.29261101]
 [-0.30964085 -0.5677824 ]
 [ 0.38358493  0.09905991]
 [ 0.8787462  -0.59677555]
 [ 2.06713324 -1.17663843]
 [ 1.07681071 -0.13288524]
 [ 0.68068169  1.78066227]
 [-0.70576986  0.56295021]
```

```
from sklearn.naive_bayes import GaussianNB
classifier=GaussianNB()
classifier.fit(x_train,y_train)
```

▼ GaussianNB ⓘ ⓘ

GaussianNB()

```
print(x_test)
```

```
[[-0.80480212  0.50496393]
 [-0.01254409 -0.5677824 ]
 [-0.30964085  0.1570462 ]
 [-0.80480212  0.27301877]
 [-0.30964085 -0.5677824 ]
 [-1.10189888 -1.43757673]
 [-0.70576986 -1.58254245]
 [-0.21060859  2.15757314]
 [-1.99318916 -0.04590581]
 [ 0.8787462  -0.77073441]
 [-0.80480212 -0.59677555]
 [-1.00286662 -0.42281668]
 [-0.11157634 -0.42281668]
 [ 0.08648817  0.21503249]
 [-1.79512465  0.47597078]
 [-0.60673761  1.37475825]
 [-0.11157634  0.21503249]
 [-1.89415691  0.44697764]
```

```
y_pred = classifier.predict(x_test)
y_pred
```

```
array([[0, 0, 0, 0, 0, 0, 0, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 1,
        0, 1, 0, 1, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0,
        1, 0, 0, 1, 0, 1, 1, 0, 0, 1, 1, 0, 0, 0, 1, 0, 0, 1, 0, 0, 1,
        0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 1, 1, 1, 1, 0, 0, 1, 0, 0, 1,
        0, 0, 0, 1, 0, 0, 0, 0, 0, 1, 1, 1])
```

```
from sklearn.metrics import confusion_matrix
cm=confusion_matrix(y_test,y_pred)
cm
```

```
array([[65,  3],
       [ 7, 25]])
```

```
y_pred=classifier.predict([[0.38358493,0.99784738]])
print(y_pred)
```

```
[1]
```