```
# Tille : Naive Bayes Classifier


import numpy as np
from sklearn.naive_bayes import GaussianNB
x= np.array([[-1,-1],[-2,-1],[-3,-2],[1,1],[2,1],[3,2]])
y=np.array ([1,1,1,2,2,2])
clf=GaussianNB()
clf.fit(x,y)
print(clf.predict([[2,2]]))
```

```
[2]
```

```
weather=['Sunny','Sunny','Overcast','Rainy','Rainy','Rainy','Overcast','Sunny','Sunny',
'Rainy','Sunny','Overcast','Overcast','Rainy']
temp=['Hot','Hot','Hot','Mild','Cool','Cool','Cool','Mild','Cool','Mild','Mild','Mild','Hot','Mild']
play=['No','No','Yes','Yes','Yes','No','Yes','No','Yes','Yes','Yes','Yes','Yes','No']



from sklearn import preprocessing
le = preprocessing.LabelEncoder()
weather_encoded=le.fit_transform(weather)
print (weather_encoded)
```

```
[2 2 0 1 1 1 0 2 2 1 2 0 0 1]
```

```
temp_encoded=le.fit_transform(temp)
label=le.fit_transform(play)
print ("Temp:", temp_encoded)
print ("Play:",label)
```

```
Temp: [1 1 1 2 0 0 0 2 0 2 2 2 1 2]
Play: [0 0 1 1 1 0 1 0 1 1 1 1 1 0]
```

```
features=list(zip(weather_encoded,temp_encoded))
features
```

```
[(2, 1),
 (2, 1),
 (0, 1),
 (1, 2),
 (1, 0),
 (1, 0),
 (0, 0),
 (2, 2),
 (2, 0),
 (1, 2),
 (2, 2),
 (0, 2),
 (0, 1),
 (1, 2)]
```

```
from sklearn.naive_bayes import GaussianNB



model = GaussianNB()




model.fit (features,label)
```

```
GaussianNB()
```

```
predicted= model.predict([[0,2]])
print ("Predicted Value:", predicted)
```

```
Predicted Value: [1]
```