



Department of Computer Science and Engineering  
Data Science

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Subject: DWM LAB

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Experiment No. 6

Aim:- To implement Naive Bayes classification algorithm using python

Code :

```
[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']

[5] 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]

[7] 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]

[8] #Combining weather and temp into a single list of tuples
    features = zip(weather_encoded, temp_encoded)
    X=weather_encoded
    Y=temp_encoded
    #print(features)
    print(list(zip(X, Y)))
    features=list(zip(X, Y))
    #print([i for i in zip(X, Y)])

[(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)]

#Import Gaussian Naive Bayes model
from sklearn.naive_bayes import GaussianNB#Create a Gaussian Classifier
model = GaussianNB()# Train the model using the training sets
model.fit(features,label)#Predict Output
predicted= model.predict([[0,2]]) # 0:Overcast, 2:Mild
print("Predicted Value:", predicted)
```



Output :

```
↔ Predicted Value: [1]
```