**Using the following details predict the probability to occur play on a particular play when weather is equal to overcast and temperature is equal to mild with Naïve Bayes Algorithm.**

**Program**

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 heapq import merge

from sklearn import preprocessing

le=preprocessing.LabelEncoder()

weather\_encoded=le.fit\_transform(weather)

print("weather:",weather\_encoded)

temp\_encoded=le.fit\_transform(temp)

label=le.fit\_transform(play)

print("Temp:",temp\_encoded)

print("Play:",label)

features=list(zip(weather\_encoded,temp\_encoded))

print(features)

from sklearn.naive\_bayes import GaussianNB

model=GaussianNB()

model.fit(features,label)

predicted=model.predict([[0,2]])

print("Predicted Value:",predicted)

**Output**

