**weather=['Sunny','Sunny','Overcast','Rainy','Rainy','Rainy','Overcast','Sunny','Sunny','Rai**

**ny','Sunn y','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']. Use Naïve**

**Bayes algorithm to predict [0: Overcast, 2: Mild]tuple belongs to which class whether to**

**play the sports or not.**

Ans

import numpy as np

import pandas as pd

from sklearn.naive\_bayes import GaussianNB

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']

data = pd.DataFrame({'Weather': weather, 'Temperature': temp, 'Play': play})

X = pd.get\_dummies(data[['Weather', 'Temperature']])

y = data['Play'].map({'No': 0, 'Yes': 1})

model = GaussianNB()

model.fit(X, y)

new\_data = pd.DataFrame({'Weather\_Overcast': [1], 'Weather\_Rainy': [0], 'Weather\_Sunny': [0],

'Temperature\_Cool': [0], 'Temperature\_Hot': [0], 'Temperature\_Mild': [1]})

prediction = model.predict(new\_data)

result = 'Yes' if prediction[0] == 1 else 'No'

result

Output:

“Yes”