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**Roll No:** 45 **Batch:** B2

**Course:** ML Lab

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**Assignment No: 6**

**Problem Statement:**

Implement Naive Bayes Classifier on Tennis Data set. Evaluate the classifier’s performance.

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**Code:**

import pandas as pd

from sklearn.model\_selection import train\_test\_split

from sklearn.metrics import accuracy\_score, precision\_score

from sklearn.naive\_bayes import GaussianNB

data = pd.read\_csv('tennis.csv')

print(data.head())

X = data.iloc[:,1:-1]

y = data.iloc[:,-1]

X = pd.get\_dummies(X)

X\_train, X\_test, y\_train, y\_test = train\_test\_split(X, y, test\_size=0.3,random\_state=30)

# Build a Gaussian Classifier

model = GaussianNB()

# Model training

model.fit(X\_train, y\_train)

# Predict Output

predicted = model.predict(X\_test)

print("\nActual Value:\n", y\_test)

print("\nPredicted Value:\n", predicted)

y\_pred = model.predict(X\_test)

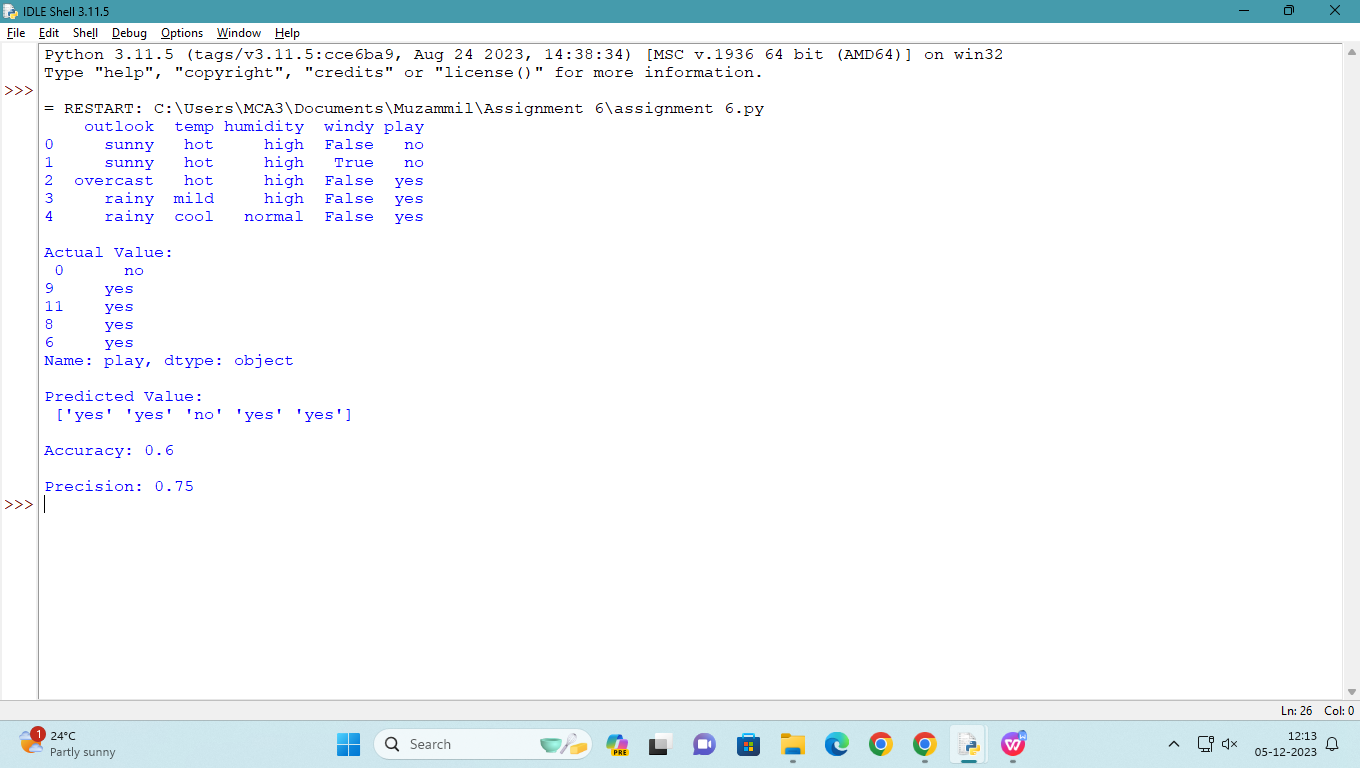
accuray = accuracy\_score(y\_pred, y\_test)

precision = precision\_score(y\_test, y\_pred, pos\_label='yes')

print("\nAccuracy:", accuray)

print("\nPrecision:", precision)

**Output:**

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