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**Roll No:23**

**Batch: MCA-B**

**Date: 17-10-2022**

**DATA SCIENCE LAB**

**Experiment No.: 7**

**Aim**.

Gaussian Naive Bayes classifier

**Procedure AND Output**

import pandas as pd

import io

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

df1 = pd.read\_csv('/content/golf-dataset.csv')

print(df1)

Outlook Temp Humidity Windy Play Golf

0 Rainy Hot High False No

1 Rainy Hot High True No

2 Overcast Hot High False Yes

3 Sunny Mild High False Yes

4 Sunny Cool Normal False Yes

5 Sunny Cool Normal True No

6 Overcast Cool Normal True Yes

7 Rainy Mild High False No

8 Rainy Cool Normal False Yes

9 Sunny Mild Normal False Yes

10 Rainy Mild Normal True Yes

11 Overcast Mild High True Yes

12 Overcast Hot Normal False Yes

13 Sunny Mild High True No

df1.head(10)

X = df1.iloc[:, [0,1,2, 3]].values

y = df1.iloc[:, -1].values

print(X)

print(y)

[['Rainy' 'Hot' 'High' False]

['Rainy' 'Hot' 'High' True]

['Overcast' 'Hot' 'High' False]

['Sunny' 'Mild' 'High' False]

['Sunny' 'Cool' 'Normal' False]

['Sunny' 'Cool' 'Normal' True]

['Overcast' 'Cool' 'Normal' True]

['Rainy' 'Mild' 'High' False]

['Rainy' 'Cool' 'Normal' False]

['Sunny' 'Mild' 'Normal' False]

['Rainy' 'Mild' 'Normal' True]

['Overcast' 'Mild' 'High' True]

['Overcast' 'Hot' 'Normal' False]

['Sunny' 'Mild' 'High' True]]

['No' 'No' 'Yes' 'Yes' 'Yes' 'No' 'Yes' 'No' 'Yes' 'Yes' 'Yes' 'Yes' 'Yes'

'No']

X\_train, X\_test, y\_train, y\_test = train\_test\_split( X, y, test\_size = 0.2, random\_state=42)

print(X\_test)

[['Sunny' 'Mild' 'Normal' False]

['Overcast' 'Mild' 'High' True]

['Rainy' 'Hot' 'High' False]]

df1['Outlook'].replace(['Rainy'],[0], inplace=True)

df1['Outlook'].replace(['Overcast'],[1], inplace=True)

print(df1)

Outlook Temp Humidity Windy Play Golf

0 0 Hot High False No

1 0 Hot High True No

2 1 Hot High False Yes

3 Sunny Mild High False Yes

4 Sunny Cool Normal False Yes

5 Sunny Cool Normal True No

6 1 Cool Normal True Yes

7 0 Mild High False No

8 0 Cool Normal False Yes

9 Sunny Mild Normal False Yes

10 0 Mild Normal True Yes

11 1 Mild High True Yes

12 1 Hot Normal False Yes

13 Sunny Mild High True No