**Lab Program 1**

import pandas as pd

from sklearn.datasets import load\_iris

iris = load\_iris()

x = iris.data

y = iris.target

a=iris.target\_names

b=iris.feature\_names

print(x.shape)

print(a)

print(b)

df=pd.DataFrame(x,columns=b)

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

x\_train,x\_test,y\_train,y\_test=train\_test\_split(x,y,random\_state=1)

print(x\_train.shape)

print(x\_test.shape)

print(y\_train.shape)

print(y\_test.shape)

from sklearn.preprocessing import StandardScaler

sc=StandardScaler()

x\_train=sc.fit\_transform(x\_train)

x\_test=sc.transform(x\_test)

from sklearn.naive\_bayes import GaussianNB

classifier=GaussianNB()

classifier.fit(x\_train,y\_train)

y\_pred=classifier.predict(x\_test)

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

from sklearn.metrics import classification\_report

from sklearn.metrics import confusion\_matrix

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

print("Accuracy: {:.2f}%".format(accuracy\*100))

precision = precision\_score(y\_test, y\_pred,average='weighted')

print("Precision: {:.2f}%".format(precision\*100))

recall = recall\_score(y\_test, y\_pred,average='weighted')

print("Recall: {:.2f}%".format(recall\*100))

f1=2\*(precision\*recall)/(precision+recall)

print("F1 Score: {:.2f}%".format(f1\*100))

print(classification\_report(y\_test,y\_pred))