9)Program to apply naive bayes classifier on the iris dataset

'''

Source for theory

https://github.com/sixteenpython/Naive-Bayes/blob/master/machine-learning-with-iris-dataset.ipynb

'''

# Ceated on 22-03-2024 at 12:00pm

from sklearn import datasets, decomposition

import pandas as pd

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

from sklearn.naive\_bayes import GaussianNB

from sklearn.metrics import accuracy\_score

# Import the dataset

iris = datasets.load\_iris()

# data = pd.DataFrame(data=iris.data, columns=iris.feature\_names)

X = iris.data

y = iris.target

# Split the data into training and test sets

X\_train, X\_test, y\_train, y\_test = train\_test\_split(X, y, test\_size=0.3, random\_state=42)

# Create an instance of classifier

model = GaussianNB()

# Fit the model to the training data

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

# Make predictions on the test set

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

# Calculate the accuracy rate

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

print("Accuracy score is:", accuray)