Hvt:Lò Văn Tâm msv: 20211164 lớp: DCCNTT12.10.4

from sklearn.datasets import load\_iris  
from sklearn.model\_selection import train\_test\_split  
from sklearn.naive\_bayes import GaussianNB  
from sklearn.tree import DecisionTreeClassifier  
from sklearn.neural\_network import MLPClassifier  
from sklearn.metrics import classification\_report, accuracy\_score  
import numpy as np  
  
# Chuẩn bị dữ liệu IRIS  
iris = load\_iris()  
X, y = iris.data, iris.target  
X\_train, X\_test, y\_train, y\_test = train\_test\_split(X, y, test\_size=0.2, random\_state=42)  
  
# Hàm huấn luyện và đánh giá mô hình  
def train\_and\_evaluate\_model(model, model\_name):  
 model.fit(X\_train, y\_train)  
 predictions = model.predict(X\_test)  
 accuracy = accuracy\_score(y\_test, predictions)  
 print(f"\n{model\_name} Accuracy:", accuracy)  
 print(classification\_report(y\_test, predictions))  
  
# Naive Bayes  
nb\_model = GaussianNB()  
train\_and\_evaluate\_model(nb\_model, "Naive Bayes")  
  
# CART (Gini Index)  
cart\_model = DecisionTreeClassifier(criterion='gini')  
train\_and\_evaluate\_model(cart\_model, "CART (Gini Index)")  
  
# ID3 (Information Gain)  
id3\_model = DecisionTreeClassifier(criterion='entropy')  
train\_and\_evaluate\_model(id3\_model, "ID3 (Information Gain)")  
  
# Neural Network  
nn\_model = MLPClassifier(hidden\_layer\_sizes=(50,), max\_iter=300, random\_state=42)  
train\_and\_evaluate\_model(nn\_model, "Neural Network (MLP)")

chương trình;





