import pandas as pd

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

from sklearn.tree import DecisionTreeClassifier

from sklearn.metrics import accuracy\_score, confusion\_matrix, classification\_report

df = pd.read\_csv('C:/Users/Aastha Kanaujia/Downloads/AIML\_Datasets/breast\_cancer.csv')

X = df.drop(columns=['diagnosis']) # Drop the target column to get features

y = df['diagnosis'] # Target variable

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

dtc = DecisionTreeClassifier()

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

# Evaluate the model

print("Training Accuracy:", accuracy\_score(y\_train, dtc.predict(x\_train)))

print("Testing Confusion Matrix:\n", confusion\_matrix(y\_test, dtc.predict(x\_test)))

print(classification\_report(y\_test, dtc.predict(x\_test)))

# Count benign and malignant cases in testing

a = confusion\_matrix(y\_test, dtc.predict(x\_test))

benign, malignant = a[0][0], a[1][1]

print(f"Benign Cases: {benign}, Malignant Cases: {malignant}")