

import matplotlib.pyplot as plt

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

from sklearn.tree import DecisionTreeClassifier, plot\_tree

from sklearn.datasets import load\_breast\_cancer

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

data = load\_breast\_cancer()

x = data.data

y = data.target *# Target Variable*

x\_train, x\_test, y\_train, y\_test = train\_test\_split(x, y, test\_size=0.2, random\_state=42) *# Training Feature, Training Target*

clf = DecisionTreeClassifier(max\_depth=3)

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

plt.figure(figsize=(15, 10))

plot\_tree(clf, filled=True, feature\_names=data.feature\_names)

plt.show()

print(clf.predict(x\_test))

V = clf.predict(x\_test)

result = accuracy\_score(y\_test, V)

print("Accuracy:", result)

report = classification\_report(y\_test, V, target\_names=data.target\_names)

print("\nClassification Report:\n", report)