**EXPERIMENT 14**

from sklearn.datasets import load\_iris

from sklearn.tree import DecisionTreeClassifier, plot\_tree

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

from sklearn.metrics import accuracy\_score

import matplotlib.pyplot as plt

iris = load\_iris()

X = iris.data

y = iris.target

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

clf = DecisionTreeClassifier(criterion='entropy', max\_depth=3)

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

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

print("Accuracy:", accuracy\_score(y\_test, y\_pred))

plt.figure(figsize=(12,8))

plot\_tree(clf, filled=True, feature\_names=iris.feature\_names, class\_names=iris.target\_names)

plt.show()