Aim:

To implement a **Decision Tree classifier** using the **scikit-learn** library on the Iris dataset and visualize the constructed decision tree along with measuring its classification accuracy.

Code:

from sklearn import datasets

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

from sklearn.tree import DecisionTreeClassifier, plot\_tree

import matplotlib.pyplot as plt

iris = datasets.load\_iris()

X = iris.data

y = iris.target

X\_train, X\_test, y\_train, y\_test = train\_test\_split(X, y, test\_size=0.2)

clf = DecisionTreeClassifier()

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

print("Accuracy:", clf.score(X\_test, y\_test))

plt.figure(figsize=(10, 8))

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

plt.show()

Result:

Accuracy: 1.0