Decision Tree classifier

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