DecisionTreeClassifier:  
  
program:  
  
# Importing necessary libraries from sklearn.datasets import load\_iris from sklearn.model\_selection import train\_test\_split from sklearn.tree import DecisionTreeClassifier, plot\_tree from sklearn.metrics import accuracy\_score import matplotlib.pyplot as plt

# Loading the iris dataset data = load\_iris() X = data.data y = data.target

# Splitting data into training and testing sets

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

# Initializing the Decision Tree Classifier classifier = DecisionTreeClassifier(criterion="entropy", max\_depth=3, random\_state=42) classifier.fit(X\_train, y\_train)

# Making predictions on the test data y\_pred = classifier.predict(X\_test)

# Calculating accuracy accuracy = accuracy\_score(y\_test, y\_pred) print(f"Decision Tree Classifier Accuracy: {accuracy:.2f}")

# Plotting the Decision Tree plt.figure(figsize=(12, 8)) plot\_tree(classifier, filled=True, feature\_names=data.feature\_names, class\_names=data.target\_names) plt.title("Decision Tree Structure") plt.show()

**Expected Output** :

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Decision Tree Classifier Accuracy: 0.98