

```
In [1]: #EXP_11
```

```
In [9]: #Aim: Decision Tree
```

```
In [1]: #Name:Dev Sanjay Vaidya  
#Roll no:69  
#Sec:B  
#Subject:ET-1  
#Date:25/09/25
```

```
In [11]: import matplotlib.pyplot as plt  
import seaborn as sns  
from sklearn.tree import DecisionTreeClassifier, plot_tree  
from sklearn.metrics import accuracy_score  
from sklearn.datasets import load_iris  
from sklearn.model_selection import train_test_split  
import pandas as pd
```

```
In [12]: # Load sample dataset  
data = load_iris()  
X = pd.DataFrame(data.data, columns=data.feature_names)  
y = pd.Series(data.target)
```

```
In [13]: # Train-test split  
x_train, x_test, y_train, y_test = train_test_split(X, y, test_size=0.2, ran
```

```
In [14]: # Train Decision Tree model  
dt = DecisionTreeClassifier(random_state=0, max_depth=3)  
dt.fit(x_train, y_train)
```

```
Out[14]:
```

```
▼ DecisionTreeClassifier  
DecisionTreeClassifier(max_depth=3, random_state=0)
```

```
In [15]: # Predict and calculate accuracy  
y_pred4 = dt.predict(x_test)  
accuracy = accuracy_score(y_test, y_pred4)  
print("Accuracy:", accuracy)
```

```
Accuracy: 1.0
```

```
In [ ]:
```