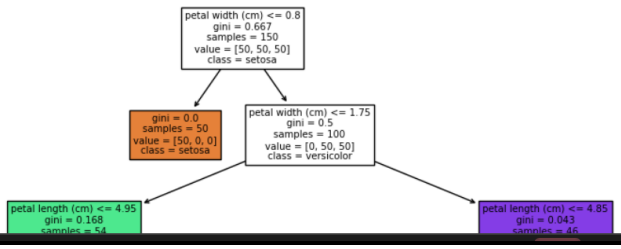
Name smriti jha

Roll number 2206296 iris dataset random forest classifier

```
[2]: # Import necessary libraries
from sklearn.datasets import load_iris
from sklearn.tree import DecisionTreeClassifier, plot_tree
from sklearn.model_selection import train_test_split
import matplotlib.pyplot as plt

[3]:
# Load the dataset
iris = load_iris()
X = iris.data  # Features
y = iris.target  # Target labels

[4]: # Split the dataset into training and testing sets
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)
```

```
[8]: # Create and train the Decision Tree model
dt = DecisionTreeClassifier(criterion='gini', random_state=42)
dt.fit(X_train, y_train)

[8]: DecisionTreeClassifier
DecisionTreeClassifier(random_state=42)
```

```
[9]: from sklearn.datasets import load_iris
from sklearn.tree import DecisionTreeClassifier, plot_tree
import matplotlib.pyplot as plt

# Load the Iris dataset
iris = load_iris()

# Train the Decision Tree model
dt = DecisionTreeClassifier()
dt.fit(iris.data, iris.target)

# Visualize the decision tree
plt.figure(figsize=(12, 8))
plot_tree(dt, feature_names=iris.feature_names, class_names=iris.target_names, filled=True)
plt.show()
```



```
dt = DecisionTreeClassifier()
dt.fit(iris.data, iris.target)

# Visualize the decision tree
plt.figure(figsize=(12, 8))
plot_tree(dt, feature_names=iris.feature_names, class_names=iris.target_names, filled=True)
plt.show()
```