In [1]:
```
from sklearn.datasets import load_iris
import pandas as pd
import numpy as np
from sklearn.preprocessing import LabelEncoder,OrdinalEncoder
```

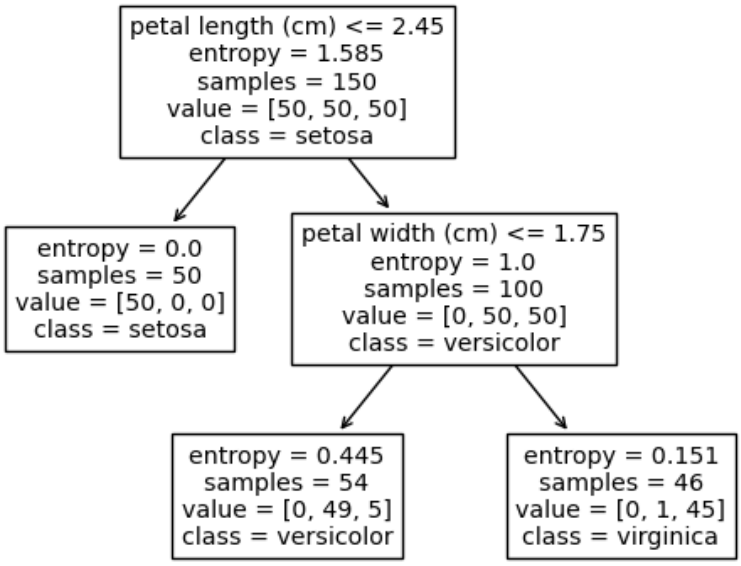
In [2]:
```
iris_data = load_iris()
X = iris_data.data[:,2:]
y = iris_data.target
print("Shape of X : "+str(X.shape)+"\nShape of y : "+str(y.shape))
```

```
Shape of X : (150, 2)
Shape of y : (150,)
```

In [3]:
```
from sklearn.tree import DecisionTreeClassifier
tree_clf = DecisionTreeClassifier(criterion='entropy',max_depth=2, random_state=100)
clf = tree_clf.fit(X,y)
```

In [4]:
```
from sklearn import tree
tree.plot_tree(clf,feature_names=iris_data.feature_names[2:],class_names=iris_data.target_names)
```

Out[4]:
```
[Text(0.4, 0.8333333333333334, 'petal length (cm) <= 2.45\nentropy = 1.585\nsamples = 150\nvalue = [50, 50, 50]\nclass = setosa'),
 Text(0.2, 0.5, 'entropy = 0.0\nsamples = 50\nvalue = [50, 0, 0]\nclass = setosa'),
 Text(0.6, 0.5, 'petal width (cm) <= 1.75\nentropy = 1.0\nsamples = 100\nvalue = [0, 50, 50]\nclass = versicolor'),
 Text(0.4, 0.16666666666666666, 'entropy = 0.445\nsamples = 54\nvalue = [0, 49, 5]\nclass = versicolor'),
 Text(0.8, 0.16666666666666666, 'entropy = 0.151\nsamples = 46\nvalue = [0, 1, 45]\nclass = virginica')]
```



In [5]:
```
print( tree_clf.predict_proba([[5,1.5]]) )
```

```
[[0.         0.90740741 0.09259259]]
```

In [6]:
```
otp = tree_clf.predict([[5,1.5]])
print(iris_data.target_names[otp])
```

```
['versicolor']
```