In [3]:
```python
import pandas as pd

df = pd.read_csv('./dataset_1.csv')

df.head()
```

Out[3]:
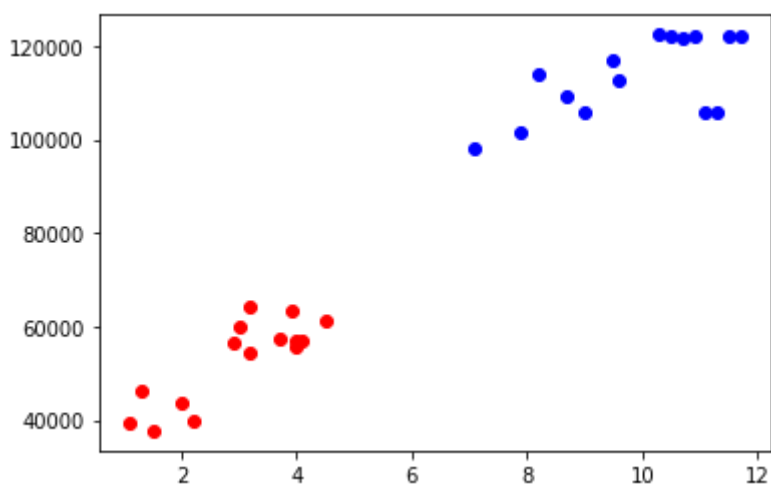
	x	y	label
0	1.1	39343	0
1	1.3	46205	0
2	1.5	37731	0
3	2.0	43525	0
4	2.2	39891	0

In [9]:
```python
import matplotlib.pyplot as plt

plt.scatter(df['x'].where(df['label']==0), df['y'].where(df['label']==0), color =
plt.scatter(df['x'].where(df['label']==1), df['y'].where(df['label']==1), color =
```

Out[9]:
```
<matplotlib.collections.PathCollection at 0x2ce0b65caf0>
```


In [14]:
```python
# preprocessing

x = df[['x','y']].to_numpy()
y = df['label'].to_numpy()
```

In [16]:
```python
from sklearn.model_selection import train_test_split

X_train, x_test, Y_train, y_test = train_test_split(x, y, test_size = 0.3)
```

In [18]:
```python
from sklearn.tree import DecisionTreeClassifier

classifier = DecisionTreeClassifier()

classifier.fit(X_train, Y_train)
```

Out[18]:
```
DecisionTreeClassifier()
```

In [19]:
```python
y_pred = classifier.predict(x_test)
```

In [20]:
```python
from sklearn.metrics import classification_report
```

```
print(classification_report(y_pred, y_test))
```

```
              precision    recall  f1-score   support

           0       1.00      1.00      1.00         6
           1       1.00      1.00      1.00         3

    accuracy                           1.00         9
   macro avg       1.00      1.00      1.00         9
weighted avg       1.00      1.00      1.00         9
```
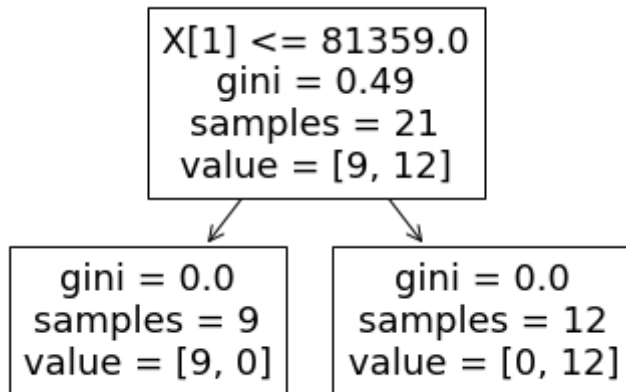
In [21]:
```python
from sklearn import tree

tree.plot_tree(classifier)
```

Out[21]:
```
[Text(167.4, 163.07999999999998, 'X[1] <= 81359.0\ngini = 0.49\nsamples = 21\nvalu
e = [9, 12]'),
 Text(83.7, 54.360000000000014, 'gini = 0.0\nsamples = 9\nvalue = [9, 0]'),
 Text(251.10000000000002, 54.360000000000014, 'gini = 0.0\nsamples = 12\nvalue =
[0, 12]')]
```


In [ ]: