In [6]:
```
# Ayush Sharma 209303312
# Python code to implement Decision tree classifier.
import pandas as pd
from sklearn import tree
from sklearn.preprocessing import LabelEncoder
```

In [7]:
```
url=(r'https://raw.githubusercontent.com/codebasics/py/master/ML/9_decision_tree/sa
df=pd.read_csv(url)
df.head()
```

Out[7]:

	company	job	degree	salary_more_then_100k
0	google	sales executive	bachelors	0
1	google	sales executive	masters	0
2	google	business manager	bachelors	1
3	google	business manager	masters	1
4	google	computer programmer	bachelors	0

In [8]:
```
inputs = df.drop('salary_more_then_100k',axis='columns')
target = df['salary_more_then_100k']
le_company = LabelEncoder()
le_job = LabelEncoder()
le_degree = LabelEncoder()
inputs['company_n'] = le_company.fit_transform(inputs['company'])
inputs['job_n'] = le_job.fit_transform(inputs['job'])
inputs['degree_n'] = le_degree.fit_transform(inputs['degree'])
inputs_n = inputs.drop(['company','job','degree'],axis='columns')
```

In [9]:
```
model = tree.DecisionTreeClassifier()
model.fit(inputs_n, target)
model.score(inputs_n,target)
```

Out[9]:
```
1.0
```

In [10]:
```
tree.plot_tree(model)
```

Out[10]: [Text(0.36363636363636365, 0.9166666666666666, 'X[0] <= 0.5\ngini = 0.469\nsamples = 16\nvalue = [6, 10]'),
 Text(0.18181818181818182, 0.75, 'X[2] <= 0.5\ngini = 0.375\nsamples = 4\nvalue = [3, 1]'),
 Text(0.09090909090909091, 0.5833333333333334, 'gini = 0.0\nsamples = 2\nvalue = [2, 0]'),
 Text(0.2727272727272727, 0.5833333333333334, 'X[1] <= 1.0\ngini = 0.5\nsamples = 2\nvalue = [1, 1]'),
 Text(0.18181818181818182, 0.4166666666666667, 'gini = 0.0\nsamples = 1\nvalue = [0, 1]'),
 Text(0.36363636363636365, 0.4166666666666667, 'gini = 0.0\nsamples = 1\nvalue = [1, 0]'),
 Text(0.5454545454545454, 0.75, 'X[0] <= 1.5\ngini = 0.375\nsamples = 12\nvalue = [3, 9]'),
 Text(0.45454545454545453, 0.5833333333333334, 'gini = 0.0\nsamples = 6\nvalue = [0, 6]'),
 Text(0.6363636363636364, 0.5833333333333334, 'X[1] <= 0.5\ngini = 0.5\nsamples = 6\nvalue = [3, 3]'),
 Text(0.5454545454545454, 0.4166666666666667, 'gini = 0.0\nsamples = 2\nvalue = [0, 2]'),
 Text(0.7272727272727273, 0.4166666666666667, 'X[2] <= 0.5\ngini = 0.375\nsamples = 4\nvalue = [3, 1]'),
 Text(0.6363636363636364, 0.25, 'gini = 0.0\nsamples = 2\nvalue = [2, 0]'),
 Text(0.8181818181818182, 0.25, 'X[1] <= 1.5\ngini = 0.5\nsamples = 2\nvalue = [1, 1]'),
 Text(0.7272727272727273, 0.08333333333333333, 'gini = 0.0\nsamples = 1\nvalue = [0, 1]'),
 Text(0.9090909090909091, 0.08333333333333333, 'gini = 0.0\nsamples = 1\nvalue = [1, 0]')]