In [ ]:
```
import numpy as np
import matplotlib.pyplot as plt
import pandas as pd
%matplotlib inline
```

In [ ]:
```
dataset = pd.read_csv('breast_cancer.csv')
X = dataset.iloc[:, 1:-1].values
y = dataset.iloc[:, -1].values
```

In [ ]:
```
from sklearn.model_selection import train_test_split
X_train, X_test, y_train, y_test = train_test_split(X, y,
                                    test_size = 0.25, random_state = 0)
```

In [ ]:
```
from sklearn.preprocessing import StandardScaler
sc = StandardScaler()
X_train = sc.fit_transform(X_train)
X_test = sc.transform(X_test)
```

In [ ]:
```
from sklearn.tree import DecisionTreeClassifier
classifier = DecisionTreeClassifier(criterion = 'entropy',
                                    random_state = 0)
classifier=classifier.fit(X_train, y_train)
```

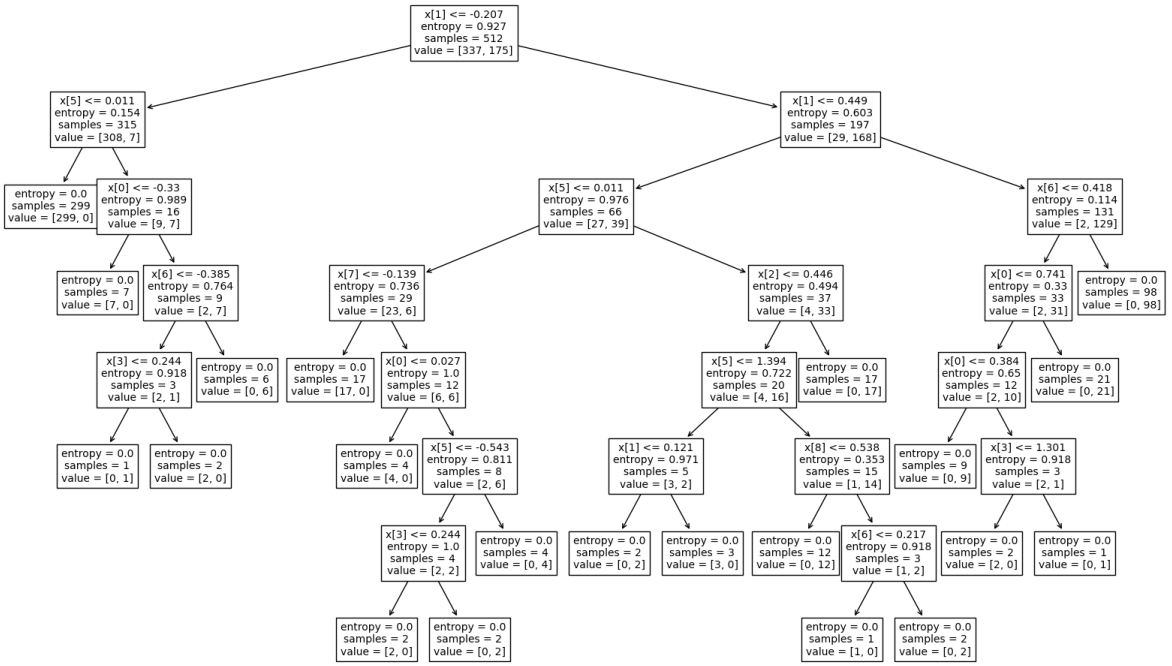
In [ ]:
```
y_pred=classifier.predict(X_test)
print(y_pred==y_test)
```

```
[ True  True  True  True  True  True  True  True  True  True  True  True
  True  True  True  True  True  True  True  True  True  True  True  True
  True  True  True  True  True  True  True  True  True  True  True  True
  True  True  True  True  True  True  True  True  True  True  True  True
  True  True  True  True  True  True  True  True  True False  True  True
  True  True  True  True  True  True  True  True  True  True  True  True
  True  True  True  True  True  True  True  True  True  True  True  True
  True  True  True False  True  True  True  True  True False  True  True
  True  True False  True  True  True  True  True  True  True  True  True
  True  True  True  True  True  True  True  True  True False  True  True
  True  True  True  True  True  True  True  True  True  True  True  True
  True  True  True  True  True  True  True  True  True False  True  True
  True False  True  True  True  True  True  True  True  True  True  True
  True  True  True  True  True  True  True  True  True  True  True  True
  True  True  True]
```

In [ ]:
```
from sklearn.metrics import accuracy_score
accuracy_score(y_pred,y_test)
```

Out[ ]:
```
0.9590643274853801
```

In [ ]:
```
from sklearn import tree
plt.figure(figsize=(20,12))
tree.plot_tree(classifier, fontsize=10)
plt.show()
```


x[1] <= -0.207
entropy = 0.927
samples = 512
value = [337, 175]
x[5] <= 0.011
entropy = 0.154
samples = 315
value = [308, 7]
x[1] <= 0.449
entropy = 0.603
samples = 197
value = [29, 168]
entropy = 0.0
samples = 299
value = [299, 0]
x[0] <= -0.33
entropy = 0.989
samples = 16
value = [9, 7]
x[5] <= 0.011
entropy = 0.976
samples = 66
value = [27, 39]
x[6] <= 0.418
entropy = 0.114
samples = 131
value = [2, 129]
entropy = 0.0
samples = 7
value = [7, 0]
x[6] <= -0.385
entropy = 0.764
samples = 9
value = [2, 7]
x[7] <= -0.139
entropy = 0.736
samples = 29
value = [23, 6]
x[2] <= 0.446
entropy = 0.494
samples = 37
value = [4, 33]
x[0] <= 0.741
entropy = 0.33
samples = 33
value = [2, 31]
entropy = 0.0
samples = 98
value = [0, 98]
x[3] <= 0.244
entropy = 0.918
samples = 3
value = [2, 1]
entropy = 0.0
samples = 6
value = [0, 6]
entropy = 0.0
samples = 17
value = [17, 0]
x[0] <= 0.027
entropy = 1.0
samples = 12
value = [6, 6]
x[5] <= 1.394
entropy = 0.722
samples = 20
value = [4, 16]
entropy = 0.0
samples = 17
value = [0, 17]
x[0] <= 0.384
entropy = 0.65
samples = 12
value = [2, 10]
entropy = 0.0
samples = 21
value = [0, 21]
entropy = 0.0
samples = 1
value = [0, 1]
entropy = 0.0
samples = 2
value = [2, 0]
entropy = 0.0
samples = 4
value = [4, 0]
x[5] <= -0.543
entropy = 0.811
samples = 8
value = [2, 6]
x[1] <= 0.121
entropy = 0.971
samples = 5
value = [3, 2]
x[8] <= 0.538
entropy = 0.353
samples = 15
value = [1, 14]
entropy = 0.0
samples = 9
value = [0, 9]
x[3] <= 1.301
entropy = 0.918
samples = 3
value = [2, 1]
x[3] <= 0.244
entropy = 1.0
samples = 4
value = [2, 2]
entropy = 0.0
samples = 4
value = [0, 4]
entropy = 0.0
samples = 2
value = [0, 2]
entropy = 0.0
samples = 3
value = [3, 0]
entropy = 0.0
samples = 12
value = [0, 12]
x[6] <= 0.217
entropy = 0.918
samples = 3
value = [1, 2]
entropy = 0.0
samples = 2
value = [2, 0]
entropy = 0.0
samples = 1
value = [0, 1]
entropy = 0.0
samples = 2
value = [2, 0]
entropy = 0.0
samples = 2
value = [0, 2]
entropy = 0.0
samples = 1
value = [1, 0]
entropy = 0.0
samples = 2
value = [0, 2]