In [9]:
```
import pandas as pd
from sklearn.tree import DecisionTreeClassifier
```

In [10]:
```
df = pd.read_csv("PlayTennis - PlayTennis.csv")
df.head()
```

Out[10]:

	outlook	temp	humidity	windy	play
0	Rainy	hot	high	False	no
1	Rainy	hot	high	True	no
2	overcast	hot	high	False	yes
3	Sunny	mild	high	False	yes
4	Sunny	cool	normal	False	yes

In [11]:
```
from sklearn.preprocessing import LabelEncoder
```

In [12]:
```
le = LabelEncoder()
df = df.apply(le.fit_transform)
```

In [13]:
```
x = df[['outlook','temp','humidity','windy']]
```

In [14]:
```
y = df.iloc[:,-1].values.reshape(-1,1)
```

In [15]:
```
y
```

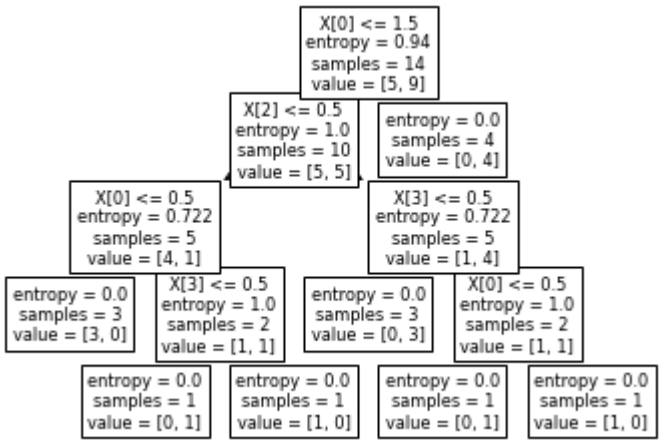
Out[15]:
```
array([[0],
       [0],
       [1],
       [1],
       [1],
       [0],
       [1],
       [0],
       [1],
       [1],
       [1],
       [1],
       [1],
       [0]])
```

In [16]:
```
dt = DecisionTreeClassifier(criterion='entropy')
dt.fit(x,y)
```

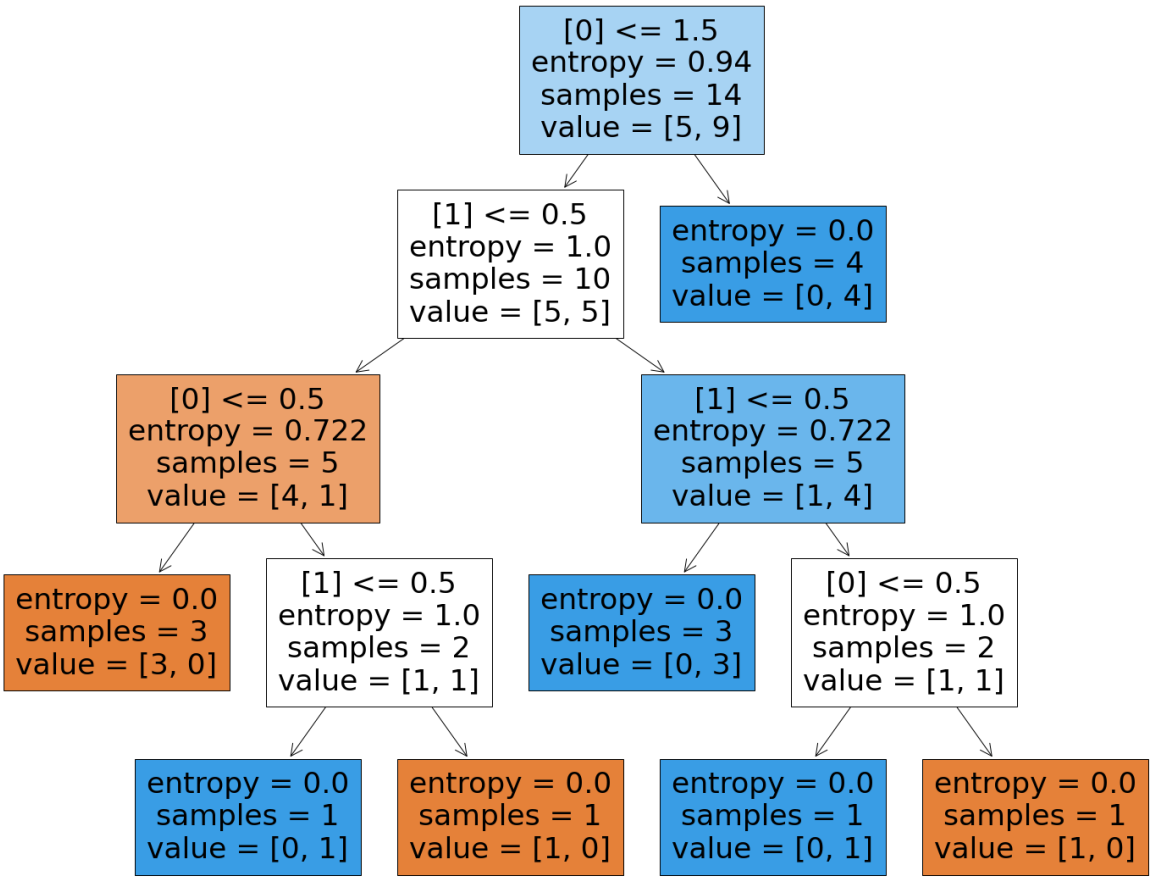
Out[16]:
```
DecisionTreeClassifier(criterion='entropy')
```

In [17]:
```
from sklearn import tree
tree.plot_tree(dt)
```

Out[17]:
```
[Text(186.0, 195.696, 'X[0] <= 1.5\nentropy = 0.94\nsamples = 14\nvalue = [5,
9]'),
 Text(148.8, 152.208, 'X[2] <= 0.5\nentropy = 1.0\nsamples = 10\nvalue = [5,
5]'),
 Text(74.4, 108.72, 'X[0] <= 0.5\nentropy = 0.722\nsamples = 5\nvalue = [4,
1]'),
 Text(37.2, 65.232, 'entropy = 0.0\nsamples = 3\nvalue = [3, 0]'),
 Text(111.60000000000001, 65.232, 'X[3] <= 0.5\nentropy = 1.0\nsamples = 2\nv
alue = [1, 1]'),
 Text(74.4, 21.744, 'entropy = 0.0\nsamples = 1\nvalue = [0, 1]'),
 Text(148.8, 21.744, 'entropy = 0.0\nsamples = 1\nvalue = [1, 0]'),
 Text(223.20000000000002, 108.72, 'X[3] <= 0.5\nentropy = 0.722\nsamples = 5
\nvalue = [1, 4]'),
 Text(186.0, 65.232, 'entropy = 0.0\nsamples = 3\nvalue = [0, 3]'),
 Text(260.40000000000003, 65.232, 'X[0] <= 0.5\nentropy = 1.0\nsamples = 2\nv
alue = [1, 1]'),
 Text(223.20000000000002, 21.744, 'entropy = 0.0\nsamples = 1\nvalue = [0,
1]'),
 Text(297.6, 21.744, 'entropy = 0.0\nsamples = 1\nvalue = [1, 0]'),
 Text(223.20000000000002, 152.208, 'entropy = 0.0\nsamples = 4\nvalue = [0,
4]')]
```



In [18]:
```
from matplotlib import pyplot as plt
fig = plt.figure(figsize=(25,20))
_ = tree.plot_tree(dt, filled=True,feature_names=y)
```



In [ ]:
```
```