DECISION TREE

In [ ]:
```
from sklearn.datasets import load_iris
```

In [ ]:
```
iris = load_iris()
print (iris)
```

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

In [ ]:
```
data = pd.DataFrame(iris.data,columns = iris.feature_names)
print(data)
```

In [ ]:
```
data.head()
```

In [ ]:
```
data['Species'] = pd.DataFrame(iris.target)
print(data)
```

In [ ]:
```
data.head()
```

In [ ]:
```
X = data.iloc[:,:-1]
y = data.iloc[:,-1]
```

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

X_train,X_test,y_train,y_test = train_test_split(X,y,test_size = 0.3)
```

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

```
model = DecisionTreeClassifier(criterion = "entropy",splitter = "best")
```

In [ ]:

```
model_fit = model.fit(X_train,y_train)
y_pred = model.predict(X_test)
```

In [ ]:

```
from sklearn.metrics import accuracy_score
print(accuracy_score(y_pred,y_test).round(2)*100)
```

In [ ]:

```
from matplotlib import pyplot as plt
%matplotlib inline
from sklearn.tree import plot_tree
```

In [ ]:

```
plt.figure(figsize=(25,20))
plot_tree(model_fit,feature_names=iris.feature_names,
                  class_names=iris.target_names,
                  filled=True)
plt.show()
```