In [ ]:
```
# Author : Amir Shokri
# github link : https://github.com/amirshnll/Wine
# dataset link : http://archive.ics.uci.edu/ml/datasets/Wine
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```

In [8]:
```
import pandas as pd
from sklearn.tree import DecisionTreeClassifier
from sklearn.model_selection import train_test_split
from sklearn import metrics
```

In [9]:
```
col_names = ['class', 'Alcohol', 'Malic acid', 'Ash', 'Alcalinity of ash', 'Magnesium', 'Total phenols', 'Flavanoids', ' Nonflavanoid phenols','Proanthocyanins','Color intensity','Hue','OD280/OD315 of diluted wines','Proline']
wine =pd.read_csv("wine.csv",header=None, names=col_names)
```

In [10]:
```
wine.head()
```

Out[10]:

	class	Alcohol	Malic acid	Ash	Alcalinity of ash	Magnesium	Total phenols	Flavanoids	Nonflavanoid phenols	Proan
0	1	14.23	1.71	2.43	15.6	127	2.80	3.06	0.28	
1	1	13.20	1.78	2.14	11.2	100	2.65	2.76	0.26	
2	1	13.16	2.36	2.67	18.6	101	2.80	3.24	0.30	
3	1	14.37	1.95	2.50	16.8	113	3.85	3.49	0.24	
4	1	13.24	2.59	2.87	21.0	118	2.80	2.69	0.39	

In [11]:
```
inputs =wine.drop('class',axis='columns')
target =wine['class']
target
```

Out[11]:
```
0      1
1      1
2      1
3      1
4      1
      ..
173    3
174    3
175    3
176    3
177    3
Name: class, Length: 178, dtype: int64
```

In [13]:
```
input_train,input_test,target_train,target_test=train_test_split(inputs,target,test_size=0.3,random_state=1)
```

In [14]:
```
clf =DecisionTreeClassifier()
clf =clf.fit(input_train,target_train)
y_pred = clf.predict(input_test)
```

In [15]:
```
print ("Accuracy:",metrics.accuracy_score(target_test,y_pred))
```

```
Accuracy: 0.9074074074074074
```

In [ ]: