**Decision tree:**

import pandas as pd  
data=pd.read\_csv('Desktop\decisionTree.csv')  
a={'youth':1,'medium':2,'senior':3}  
s={'yes':1,'no':0}  
i={'high':1,'low':0}  
c={'fair':1,'excellent':2}  
data['AGE']=data['AGE'].map(a)  
data['STUDENT']=data['STUDENT'].map(s)  
data['INCOME']=data['INCOME'].map(i)  
data['CREDITRATING']=data['CREDITRATING'].map(c)  
data['BUYS\_COMPUTER']=data['BUYS\_COMPUTER'].map(s)  
print(data)

features=['AGE','STUDENT','INCOME','CREDITRATING']  
target=['BUYS\_COMPUTER']  
feature\_data=data[features]  
target\_data=data[target]  
print(feature\_data)

from sklearn.tree import DecisionTreeClassifier  
from sklearn import tree  
import matplotlib.pyplot as plt  
dtree=DecisionTreeClassifier()  
dtree.fit(feature\_data,target\_data)  
tree.plot\_tree(dtree)

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| **Naïve bayes:** | import pandas as pd data=pd.read\_csv('Desktop\decisionTree.csv') a={'youth':1,'medium':2,'senior':3} s={'yes':1,'no':0} i={'high':1,'low':0} c={'fair':1,'excellent':2} data['AGE']=data['AGE'].map(a) data['STUDENT']=data['STUDENT'].map(s) data['INCOME']=data['INCOME'].map(i) data['CREDITRATING']=data['CREDITRATING'].map(c) data['BUYS\_COMPUTER']=data['BUYS\_COMPUTER'].map(s) print(data)  features=['AGE','STUDENT','INCOME','CREDITRATING'] target=['BUYS\_COMPUTER'] feature\_data=data[features] target\_data=data[target]  from sklearn.naive\_bayes import GaussianNB gnb=GaussianNB() gnb.fit(feature\_data,target\_data) test\_data\_f=pd.DataFrame([[2,0,0,1]],columns=features) print(test\_data\_f)  tar\_pred=gnb.predict(test\_data\_f) print(tar\_pred) |