**Decision Tree**

import pandas as pd

from sklearn.model\_selection import train\_test\_split

from sklearn import tree

from sklearn.preprocessing import LabelEncoder

from sklearn.metrics import accuracy\_score

from sklearn.metrics import auc

from sklearn.metrics import classification\_report

from sklearn.metrics import confusion\_matrix

from sklearn.metrics import f1\_score

from sklearn.metrics import precision\_recall\_curve

from sklearn.metrics import roc\_auc\_score

from sklearn.metrics import roc\_curve

data=pd.read\_csv("C:/Users/SNEH/Desktop/Practical sem 3/IMLT Practical/credit.csv")

data.isnull().sum()

y=data['default']

y.shape

x=data.drop(['default'],axis=1)

x.shape

x1=x.apply(LabelEncoder().fit\_transform)

x\_train, x\_test, y\_train, y\_test = train\_test\_split(x1, y, test\_size=0.3)

clf = tree.DecisionTreeClassifier(criterion="gini")

clf = clf.fit(x\_train, y\_train)

y\_pred=clf.predict(x\_test)

print('Accuracy\_score: ', accuracy\_score(y\_pred, y\_test))

print('confusion\_matrix: ', confusion\_matrix(y\_pred, y\_test))

print('Classification\_Report: ', classification\_report(y\_pred, y\_test))

clf = tree.DecisionTreeClassifier(criterion="entropy")

clf = clf.fit(x\_train, y\_train)

y\_pred=clf.predict(x\_test)

print('Accuracy\_score: ', accuracy\_score(y\_pred, y\_test))

print('confusion\_matrix: ', confusion\_matrix(y\_pred, y\_test))

print('Classification\_Report: ', classification\_report(y\_pred, y\_test))

#id3,c4.5,c5.0