## Decision Tree Classifier on Wine dataset

from sklearn.datasets import load\_wine

from sklearn import tree

import graphviz

import numpy as np

wine=load\_wine()

x=wine.data

y=wine.target

fn=wine.feature\_names

cn=wine.target\_names

#Algorithm

from sklearn.tree import DecisionTreeClassifier

ML=DecisionTreeClassifier()

#Fit data into model

ML=ML.fit(x,y)

#Prediction

y\_pred = ML.predict([np.random.randn(13)])

print("Predicted class using DT:",y\_pred)

##Plotting the decision tree

import graphviz

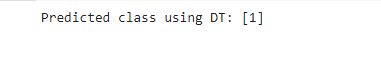
dot\_data= tree.export\_graphviz(ML,feature\_names=fn, class\_names=cn,filled=True,rounded=True,special\_characters=True)

graph=graphviz.Source(dot\_data)

graph.render("DTwinedataset")

graph

OUTPUT



## Decision Tree Classifier on Iris dataset

from sklearn.datasets import load\_iris

from sklearn import tree

import graphviz

iris=load\_iris()

x=iris.data

y=iris.target

fn=iris.feature\_names

cn=iris.target\_names

#Algorithm

from sklearn.tree import DecisionTreeClassifier

ML=DecisionTreeClassifier(criterion="entropy",random\_state=42)

#Fit data into model

ML=ML.fit(x,y)

#Prediction

op=ML.predict([[1.5,2,1.5,3]])

print("Predicted value using Decision Tree Classifier:",op)

##Plotting the decision tree

import graphviz

dot\_data= tree.export\_graphviz(ML,feature\_names=fn, class\_names=cn,filled=True,rounded=True,special\_characters=True)

graph=graphviz.Source(dot\_data)

graph.render("DTiris")

graph

OUTPUT

