import pandas as pd

import numpy as np

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

# 1. Read the data in csv file

df = pd.read\_csv("C:/Users/Sandip/Downloads/Iris.csv")

print("The Data-set For Enjoy Sport Example is:- ")

#print(df)

#print(df.columns)

print(df.head())

data = np.array(df)

# 2. extract and print feature/attribute columns

X = data[:,:-1]

print("\n The Feature column data :- ")

print(X)

# 3. extract and print target column

y = data[:, -1]

print("\n The Target column data is :- ")

print(y)

# 4. split the dataset in training and testing data

X\_train, X\_test, Y\_train, y\_test = train\_test\_split(X, y, random\_state=1)

# use any of the classifier as required import the respective library

clf = DecisionTreeClassifier(max\_depth=5, random\_state=1, criterion='gini')

# 5. Train and fit the model using classifier

clf.fit(X\_train, Y\_train)

# 6. Use model to predict Y using test data

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

# 7. Measure the accuracy metrics

accuracy = metrics.accuracy\_score(y\_test, y\_pred))

print("Accuracy: ", accuracy)

# 8. Plot the tree structure of the decision tree build by the model

import matplotlib.pyplot as plt

from sklearn import tree

tree.plot\_tree(clf)