# predict decision choice using SVM and calculate prediction accuracy and weightage of features

import numpy as np

import pandas as pd

from sklearn import svm

from sklearn.preprocessing import LabelEncoder

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

dataset=pd.read\_csv('/Users/saurav/Desktop/Research works/my\_work/decisionCART.csv')

dataset=pd.DataFrame(data=dataset.iloc[:,0:5].values,columns=["temperature","humidity","rainfall","wind","decision"])

print("Data")

print(dataset)

dataset\_encoded=dataset.iloc[:,0:5]

le=LabelEncoder()

for i in dataset\_encoded:

dataset\_encoded[i]=le.fit\_transform(dataset\_encoded[i])

print("Encoded data")

print(dataset\_encoded)

#Feature Set

X=dataset\_encoded.iloc[:,0:4]

#Label Set

y=dataset\_encoded.iloc[:,4]

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

svm = svm.SVC(kernel='linear')

svm.fit(X\_train, y\_train)

print("Weightage of features")

print(svm.coef\_)

print("Prediction accuracy")

print(svm.score(X\_train,y\_train))