**Code 3 (Decision Tree)**

from google.colab import drive

drive.mount('/content/drive')

import warnings

import pandas as pd

import numpy as np

import matplotlib.pyplot as plt

path="/daily\_weather.csv"

df=pd.read\_csv(path)

df.head()

df.isnull().sum()

df.shape

df=df.dropna()

df.shape

df['relative\_humidity\_3pm'] = df['relative\_humidity\_3pm'].apply(lambda x: 1 if x > 24.99 else 0)

df.head()

df = df.drop(columns=['number','relative\_humidity\_9am'])

df.head()

X=df.iloc[:,:-1]

print(X)

y=df.iloc[:,-1]

print(y)

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

X\_train, X\_test, y\_train, y\_test = train\_test\_split(X, y, train\_size = 0.7, test\_size = 0.25, random\_state = 42)

from sklearn.tree import DecisionTreeClassifier # Import DecisionTreeClassifier

humidity\_classifier= DecisionTreeClassifier(max\_leaf\_nodes=10,random\_state=0)

humidity\_classifier.fit(X\_train,y\_train)

import matplotlib.pyplot as plt

from sklearn import tree

plt.figure(figsize=(15,10))

tree.plot\_tree(humidity\_classifier,filled=True)

y\_pred = humidity\_classifier.predict(X\_test)

print(y\_pred)

from sklearn.metrics import accuracy\_score, classification\_report,confusion\_matrix

score = accuracy\_score(y\_pred, y\_test)

print(score)

print(classification\_report(y\_pred, y\_test))

print("Confusion Matrix:",confusion\_matrix(y\_pred, y\_test))