Decision Tree

import pandas as pd

from sklearn.tree import DecisionTreeClassifier

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

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

import matplotlib.pyplot as plt

from sklearn.tree import plot\_tree

data = pd.read\_csv('movie.csv')

X = data[['No: of Popular Celebrities', 'Estimated Budget']]

y = data['Result']

X\_train, X\_test, y\_train, y\_test = train\_test\_split(X, y, test\_size=0.2, random\_state=2)

clf = DecisionTreeClassifier()

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

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

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

print(f'Accuracy: {accuracy:.2f}')

print(f'Confusion Matrix:\n{confusion\_matrix(y\_test, y\_pred)}')

plt.figure(figsize=(12, 6))

plot\_tree(clf, feature\_names=X.columns, class\_names=y.unique(), filled=True)

plt.show()

celebrities = int(input("Enter the Number of Celebrities: "))

budget = int(input("Enter the Estimated Budget: "))

input\_data = pd.DataFrame({'No: of Popular Celebrities': [celebrities], 'Estimated Budget': [budget]})

prediction = clf.predict(input\_data)

print("Predicted Result:", prediction[0])

Output:

