**7.Implementation of Decision Tree**

**Aim:** To Implement of Decision Tree

**Code:**

from sklearn.tree import DecisionTreeClassifier

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

from sklearn.metrics import accuracy\_score

import pandas as pd

data = {'feature1': [1, 2, 3, 4, 5, 6, 7, 8, 9, 10],

'feature2': [10, 9, 8, 7, 6, 5, 4, 3, 2, 1],

'target': [0, 0, 0, 1, 1, 1, 0, 0, 1, 1]}

df = pd.DataFrame(data)

X = df[['feature1', 'feature2']]

y = df['target']

X\_train, X\_test, y\_train, y\_test = train\_test\_split(X, y, test\_size=0.2, random\_state=42)

clf = DecisionTreeClassifier()

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

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

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

print(f"Accuracy: {accuracy}")

**OUT PUT:**

**Accuracy: 1.0**