EXNO:9 **DATE:4/10/2024**

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IMPLEMENTATION OF DECISION TREE CLASSIFICATION TECHNIQUES

AIM: To implement a decision tree classification technique for gender classification using python

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CODE:

```
import pandas as pd

from sklearn.tree import DecisionTreeClassifier


data = {

    'Height': [152, 155, 172, 185, 167, 180, 157, 180, 164, 177],

    'Weight': [45, 57, 72, 85, 68, 78, 22, 90, 66, 88],

    'Gender': ['Female', 'Female', 'Male', 'Male', 'Female', 'Male',
'Female', 'Male', 'Female', 'Male']
```

```
}


df = pd.DataFrame(data)

X = df[['Height', 'Weight']]

Y = df['Gender']


classifier = DecisionTreeClassifier()

classifier.fit(X, Y)


height = float(input("Enter height (in cm) for prediction: "))

weight = float(input("Enter weight (in kg) for prediction: "))

random_values = pd.DataFrame([[height, weight]], columns=['Height',
'Weight'])

predicted_gender = classifier.predict(random_values)


print(f"Predicted gender for height {height} cm and weight {weight} kg:
{predicted_gender[0]}")
```

OUTPUT: