

**EX.NO : 11b**

**IMPLEMENTATION OF DECISION TREE CLASSIFICATION TECHNIQUES**

**AIM:**

To implement a decision tree classification technique for gender classification using python.

**EXPLANATION:**

- Import tree from sklearn.
- Call the function DecisionTreeClassifier() from tree
- Assign values for X and Y.
- Call the function predict for Predicting on the basis of given random values for each given feature.
- Display the output.

**SOURCE CODE:**

```
from sklearn import tree
#Using DecisionTree classifier for prediction
clf = tree.DecisionTreeClassifier()

#Here the array contains three values which are height,weight and shoe size
X = [[181, 80, 91], [182, 90, 92], [183, 100, 92], [184, 200, 93], [185, 300, 94], [186, 400, 95],
[187, 500, 96], [189, 600, 97], [190, 700, 98], [191, 800, 99], [192, 900, 100], [193, 1000, 101]]
Y = ['male', 'male', 'female', 'male', 'female', 'male', 'female', 'male', 'female', 'male', 'female', 'male', 'female', 'male']
clf = clf.fit(X, Y)

#Predicting on basis of given random values for each given feature
predictionf = clf.predict([[181, 80, 91]])
predictionm = clf.predict([[183, 100, 92]])

#Printing final prediction
print(predictionf)
print(predictionm)
```

**OUTPUT:**

['male']

['female']

**RESULT:**

Thus the python code is implemented successfully and the output is verified.