Ex.No:
Date

Implementation of Decision tree classification Techniques.

Aim:

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

Algorithm:

* Define the problem and Data
  → Decide on the features (x) to use for classification.
  → Assign labels (Y) to each instance in the Data.
* Initialize the Decision tree classifier:
  → Import Decision tree classifier from sklearn.tree
  → create an instance for Decision tree classifier.
* Train the classifier.
  → use the fit() method of the decision tree classifier to train it on the data.
  → pass the features (x) & label (Y) as input to fit().
* predict on New data
  → use the predict() method of the trained model to make predictions on new data points
  → Input the new data values for each feature to predict.
* Display the results:
  → Print the predicted label for the new data point.

Code:

```
from sklearn.tree import DecisionTreeClassifier.
X = [[180, 80, 44], [165,65, 38], [170,70,40],
  [155, 90, 36], [160, 55, 37]].
Y = ['Male', 'female', 'Male', 'Female', 'Female']
clf = DecisionTreeClassifier()
clf = clf.fit(X, Y).
Prediction = clf.predict([[168, 68, 39]])
print("The predicted gender is : " prediction[0])
```

Output:

The predicted gender is : Male.

Result:

Thus the program is successfully executed and output is verified.