

**EXNO:9**

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## **IMPLEMENTATION OF DECISION TREE CLASSIFICATION TECHNIQUES**

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



### **CODE:**

```
from sklearn.tree import DecisionTreeClassifier

import numpy as np

X = np.array([
    [170, 65, 42],
    [180, 75, 44],
    [160, 50, 38],
    [175, 70, 43],
    [165, 55, 39],
    [185, 80, 45]
```

```
] )

Y = np.array([0, 1, 0, 1, 0, 1])

clf = DecisionTreeClassifier()

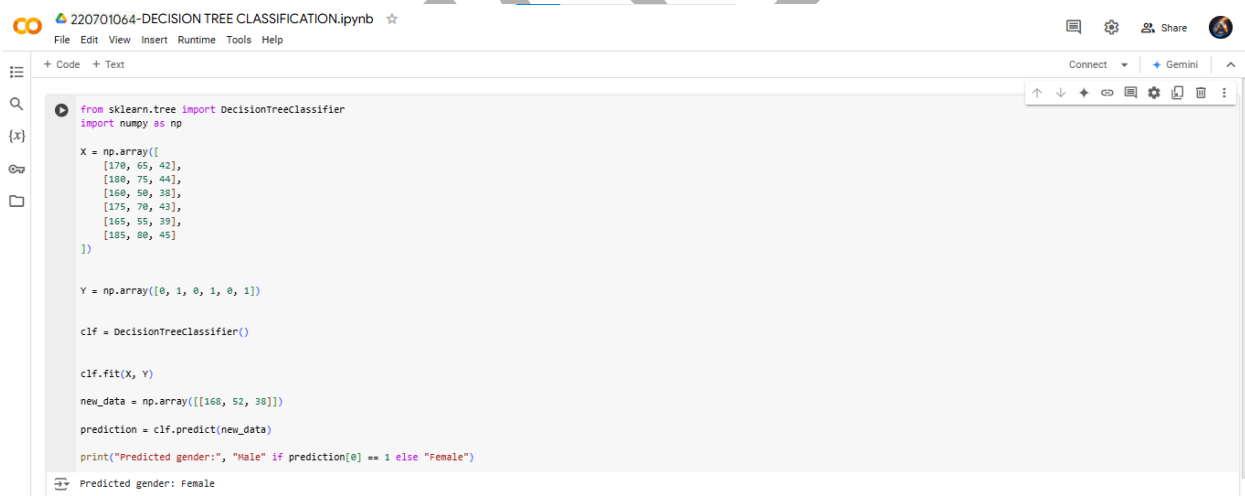
clf.fit(X, Y)

new_data = np.array([[168, 52, 38]])

prediction = clf.predict(new_data)

print("Predicted gender:", "Male" if prediction[0] == 1 else "Female")
```

## OUTPUT:



The screenshot shows a Jupyter Notebook interface with a code cell containing the following Python code:

```
from sklearn.tree import DecisionTreeClassifier
import numpy as np

X = np.array([
    [170, 65, 42],
    [180, 75, 44],
    [160, 50, 38],
    [175, 70, 43],
    [165, 55, 39],
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])

Y = np.array([0, 1, 0, 1, 0, 1])

clf = DecisionTreeClassifier()

clf.fit(X, Y)

new_data = np.array([[168, 52, 38]])

prediction = clf.predict(new_data)

print("Predicted gender:", "Male" if prediction[0] == 1 else "Female")
```

The output of the code cell is displayed below the code:

```
Predicted gender: Female
```