

EXPERIMENT – 3

OUTPUT:

The screenshot shows a Microsoft Visual Studio Code interface. The top bar includes icons for file operations, search, and windows control. The left sidebar has icons for file, search, and other development tools. The main area displays a Python script named `03.py`. The code imports `datasets` from `sklearn`, `DecisionTreeClassifier` from `sklearn.tree`, and `matplotlib.pyplot` as `plt`. It loads the Iris dataset, splits it into `X` (features) and `y` (target), creates a classifier, fits it to the data, and then enters a loop to predict four new samples. The predicted class for each sample is printed.

```
D: > College > Machine Learning > Experiments > Code Files > 03.py > ...
1  from sklearn import datasets
2  from sklearn.tree import DecisionTreeClassifier, plot_tree
3  import matplotlib.pyplot as plt
4  iris = datasets.load_iris()
5  X = iris.data
6  y = iris.target
7  clf = DecisionTreeClassifier()
8  clf.fit(X, y)
9  new_sample = []
10 for i in range(4):
11     new_sample.append(float(input(f"Enter feature {i+1}: ")))
12 prediction = clf.predict([new_sample])
13 print("Predicted class:", iris.target_names[prediction[0]])
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL ... Python Debug Console + ⚡

- PS D:\College\Machine Learning\Experiments\Code Files> & 'c:\Users\HARSHINI RN\AppData\Local\Microsoft\WindowsApps\python3.13.exe' 'c:\Users\HARSHINI RN\.vscode\extensions\ms-python.debugpy-2025.18.0-win32-x64\bundled\libs\debugpy\launcher' '55313' '--' 'd:\college\Machine Learning\Experiments\Code Files\03.py'
Enter feature 1: 5.1
Enter feature 2: 3.5
Enter feature 3: 1.4
Enter feature 4: 0.2
Predicted class: setosa
- PS D:\College\Machine Learning\Experiments\Code Files>