EXP : 7

3 Programs on Planning and Learning

d Implementation of Decision Tree

AIM:

To solve decision tree problem

CODE:

```
from sklearn.datasets import load_iris
from sklearn.tree import DecisionTreeClassifier

# Load the iris dataset
iris = load_iris()
X = iris.data
y = iris.target

# Create and train the decision tree
model = DecisionTreeClassifier()
model.fit(X, y)

# Predict for a new sample
sample = [[5.1, 3.5, 1.4, 0.2]]
prediction = model.predict(sample)

# Print result
print("Sample:", sample)
print("Predicted class (as number):", prediction[0])
print("Predicted class (as label):", iris.target_names[prediction[0]])
```

OUTPUT:

Sample: [[5.1, 3.5, 1.4, 0.2]]

Predicted class (as number): 0

Predicted class (as label): setosa

RESULT:

Thus the program is compiled and run successfully.