7. K-Nearest Neighbors (KNN) : classify the Iris dataset into different flower species.

Program :

```
from sklearn.datasets import load_iris
from sklearn.model-selection import train-test-split .
from sklearn.preprocessing import Standard Scaler.
from sklearn.neighbors import KNeighbors classifier
from sklearn.metrics import classification-report, accuracy-score

Iris = load-iris()
X = iris.data
Y = iris.target

X-train, X-test, y-train, y-test = train-test-split(X,Y, test-size=0.2, random-state=42)

scaler = Standard Scaler()
X-train = scaler.fit-transform(X-train)
X-test = scaler.transform(X-test)

knn = KNeighbors classifier(n-neighbors=3)

knn.fit(X-train, y-train)
```

```
y_pred = knn.predict(X_test)

print("Accuracy:", accuracy_score(y_test,
      y_pred))
print("In classification Report:")
print(Classification_report(y_test, y_pred,
      target_names = Iris.target_names))
```

OUTPUT:

Accuracy: 1.0

Classification Report:

|           | precision | recall | f1-score | support |
|-----------|-----------|--------|----------|---------|
| setosa    | 1.00      | 1.00   | 1.00     | 10      |
| versicolor| 1.00      | 1.00   | 1.00     | 9       |
| virginica | 1.00      | 1.00   | 1.00     | 11      |
|           |           |        |          |         |
| accuracy  |           |        | 1.00     | 30      |
| macro avg | 1.00      | 1.00   | 1.00     | 30      |
| weighted avg | 1.00   | 1.00   | 1.00     | 30.     |