

In [12]: `!pip install scikit-learn`

Requirement already satisfied: scikit-learn in c:\users\swathi\appdata\local\programs\python\python311\lib\site-packages (1.3.0)
Requirement already satisfied: numpy>=1.17.3 in c:\users\swathi\appdata\local\programs\python\python311\lib\site-packages (from scikit-learn) (1.24.3)
Requirement already satisfied: scipy>=1.5.0 in c:\users\swathi\appdata\local\programs\python\python311\lib\site-packages (from scikit-learn) (1.11.1)
Requirement already satisfied: joblib>=1.1.1 in c:\users\swathi\appdata\local\programs\python\python311\lib\site-packages (from scikit-learn) (1.3.1)
Requirement already satisfied: threadpoolctl>=2.0.0 in c:\users\swathi\appdata\local\programs\python\python311\lib\site-packages (from scikit-learn) (3.2.0)

In [10]: `from sklearn.datasets import load_iris ##loading iris data
from sklearn.neighbors import KNeighborsClassifier
from sklearn.model_selection import train_test_split
import numpy as np

dataset = load_iris()

X_train, X_test, y_train, y_test = train_test_split(dataset["data"], dataset["target"], random_state=42)

kn = KNeighborsClassifier(n_neighbors=1)
kn.fit(X_train, y_train)

for i in range(len(X_test)):
 x = X_test[i]
 x_new = np.array([x])
 prediction = kn.predict(x_new)
 print("TARGET=", y_test[i], dataset["target_names"][y_test[i]], "PREDICTED=", prediction, dataset["target_names"][prediction])

print(kn.score(X_test, y_test))`

TARGET= 1 versicolor PREDICTED= [1] ['versicolor']
TARGET= 0 setosa PREDICTED= [0] ['setosa']
TARGET= 2 virginica PREDICTED= [2] ['virginica']
TARGET= 1 versicolor PREDICTED= [1] ['versicolor']
TARGET= 1 versicolor PREDICTED= [1] ['versicolor']
TARGET= 0 setosa PREDICTED= [0] ['setosa']
TARGET= 1 versicolor PREDICTED= [1] ['versicolor']
TARGET= 2 virginica PREDICTED= [2] ['virginica']
TARGET= 1 versicolor PREDICTED= [1] ['versicolor']
TARGET= 1 versicolor PREDICTED= [1] ['versicolor']
TARGET= 2 virginica PREDICTED= [2] ['virginica']
TARGET= 0 setosa PREDICTED= [0] ['setosa']
TARGET= 0 setosa PREDICTED= [0] ['setosa']
TARGET= 0 setosa PREDICTED= [0] ['setosa']
TARGET= 0 setosa PREDICTED= [0] ['setosa']
TARGET= 1 versicolor PREDICTED= [1] ['versicolor']
TARGET= 2 virginica PREDICTED= [2] ['virginica']
TARGET= 1 versicolor PREDICTED= [1] ['versicolor']
TARGET= 1 versicolor PREDICTED= [1] ['versicolor']
TARGET= 2 virginica PREDICTED= [2] ['virginica']
TARGET= 0 setosa PREDICTED= [0] ['setosa']
TARGET= 2 virginica PREDICTED= [2] ['virginica']
TARGET= 0 setosa PREDICTED= [0] ['setosa']
TARGET= 2 virginica PREDICTED= [2] ['virginica']
TARGET= 2 virginica PREDICTED= [2] ['virginica']
TARGET= 2 virginica PREDICTED= [2] ['virginica']
TARGET= 2 virginica PREDICTED= [2] ['virginica']
TARGET= 2 virginica PREDICTED= [2] ['virginica']
TARGET= 0 setosa PREDICTED= [0] ['setosa']
TARGET= 0 setosa PREDICTED= [0] ['setosa']
TARGET= 0 setosa PREDICTED= [0] ['setosa']
TARGET= 0 setosa PREDICTED= [0] ['setosa']
TARGET= 1 versicolor PREDICTED= [1] ['versicolor']
TARGET= 0 setosa PREDICTED= [0] ['setosa']
TARGET= 0 setosa PREDICTED= [0] ['setosa']
TARGET= 2 virginica PREDICTED= [2] ['virginica']
TARGET= 1 versicolor PREDICTED= [1] ['versicolor']

```
TARGET= 0 setosa PREDICTED= [0] ['setosa']
1.0
```

In []: