from sklearn.model\_selection import train\_test\_split

from sklearn.neighbors import KNeighborsClassifier

from sklearn import datasets

iris=datasets.load\_iris()

print("Iris Data set loaded...")

x\_train, x\_test, y\_train, y\_test = train\_test\_split(iris.data,iris.target,test\_size=0.1)

#random\_state=0

for i in range(len(iris.target\_names)):

print("Label", i , "-",str(iris.target\_names[i]))

classifier = KNeighborsClassifier(n\_neighbors=2)

classifier.fit(x\_train, y\_train)

y\_pred=classifier.predict(x\_test)

print("Results of Classification using K-nn with K=1 ")

for r in range(0,len(x\_test)):

print(" Sample:", str(x\_test[r]), " Actual-label:", str(y\_test[r])," Predicted-label:", str(y\_pred[r]))

print("Classification Accuracy :" , classifier.score(x\_test,y\_test));

**Output:**

Iris Data set loaded...

Label 0 - setosa

Label 1 - versicolor

Label 2 - virginica

Results of Classification using K-nn with K=1

Sample: [5. 3.6 1.4 0.2] Actual-label: 0 Predicted-label: 0

Classification Accuracy : 0.9333333333333333

Sample: [4.5 2.3 1.3 0.3] Actual-label: 0 Predicted-label: 0

Classification Accuracy : 0.9333333333333333

Sample: [5.1 3.5 1.4 0.3] Actual-label: 0 Predicted-label: 0

Classification Accuracy : 0.9333333333333333

Sample: [6.1 2.6 5.6 1.4] Actual-label: 2 Predicted-label: 1

Classification Accuracy : 0.9333333333333333

Sample: [4.4 2.9 1.4 0.2] Actual-label: 0 Predicted-label: 0

Classification Accuracy : 0.9333333333333333

Sample: [5.2 3.5 1.5 0.2] Actual-label: 0 Predicted-label: 0

Classification Accuracy : 0.9333333333333333

Sample: [6.2 3.4 5.4 2.3] Actual-label: 2 Predicted-label: 2

Classification Accuracy : 0.9333333333333333

Sample: [4.8 3.4 1.9 0.2] Actual-label: 0 Predicted-label: 0

Classification Accuracy : 0.9333333333333333

Sample: [6.9 3.1 5.4 2.1] Actual-label: 2 Predicted-label: 2

Classification Accuracy : 0.9333333333333333

Sample: [5.6 3. 4.1 1.3] Actual-label: 1 Predicted-label: 1

Classification Accuracy : 0.9333333333333333

Sample: [4.7 3.2 1.6 0.2] Actual-label: 0 Predicted-label: 0

Classification Accuracy : 0.9333333333333333

Sample: [6.3 2.3 4.4 1.3] Actual-label: 1 Predicted-label: 1

Classification Accuracy : 0.9333333333333333

Sample: [5.1 3.4 1.5 0.2] Actual-label: 0 Predicted-label: 0

Classification Accuracy : 0.9333333333333333

Sample: [6. 2.9 4.5 1.5] Actual-label: 1 Predicted-label: 1

Classification Accuracy : 0.9333333333333333

Sample: [5.4 3.9 1.3 0.4] Actual-label: 0 Predicted-label: 0

Classification Accuracy : 0.9333333333333333