**8. Write a program to implement *k*-Nearest Neighbour algorithm to classify the iris data set. Print both correct and wrong predictions. Java/Python ML library classes can be used for this problem**.

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

from sklearn.neighbors import KNeighborsClassifier

from sklearn.metrics import confusion\_matrix,classification\_report

from sklearn import datasets

iris=datasets.load\_iris()

iris\_data=iris.data

iris\_labels=iris.target

print(iris\_data)

x\_train,X\_test,Y\_train,Y\_test=train\_test\_split(iris\_data,iris\_labels,test\_size=0.20)

classifier=KNeighborsClassifier(n\_neighbors=5)

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

y\_prd=classifier.predict(X\_test)

print(confusion\_matrix(Y\_test,y\_prd))

print(classification\_report(Y\_test,y\_prd))

OUTPUT:

[[5.1 3.5 1.4 0.2]

[4.9 3. 1.4 0.2]

[4.7 3.2 1.3 0.2]

[4.6 3.1 1.5 0.2]

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[6.4 3.2 4.5 1.5]

[6.9 3.1 4.9 1.5]

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[5.9 3. 5.1 1.8]]

[[10 0 0]

[ 0 10 0]

[ 0 0 10]]

precision recall f1-score support

0 1.00 1.00 1.00 10

1 1.00 1.00 1.00 10

2 1.00 1.00 1.00 10

accuracy 1.00 30

macro avg 1.00 1.00 1.00 30

weighted avg 1.00 1.00 1.00 30