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Practical No 7 :- **Write a program to implement k-Nearest Neighbour algorithm to classify the iris dataset. Print both correct and wrong predictions. Java/Python ML library classes can be used for this problem.**

**Code:**

from pandas import DataFrame

from sklearn.datasets import load\_iris

data\_b=load\_iris()

df=DataFrame(data\_b.data,columns=data\_b.feature\_names)

df['target']=data\_b.target

print("Dataset Labels=",data\_b.target\_names)

from sklearn.neighbors import KNeighborsClassifier

from sklearn import metrics

from sklearn.metrics import confusion\_matrix

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

x\_train,x\_test,y\_train,y\_test=train\_test\_split(df[data\_b.feature\_names],df['target'],random\_state=1)

print(x\_train)

print(x\_test)

clf=KNeighborsClassifier(n\_neighbors=6)

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

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

print("Accurancy:",metrics.accuracy\_score(y\_test,y\_pred))

cm=confusion\_matrix(y\_test,y\_pred)

print("Confussion Matrix:")

print(cm)

**Output :-**

Dataset Labels= ['setosa' 'versicolor' 'virginica']

Accurancy: 1.0

Confussion Matrix:

[[13 0 0]

[ 0 16 0]

[ 0 0 9]]

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