ML

EXPERIMENT 9

Q1. KNN implementation with Confusion Matrix

Ans.

import numpy as np

import pandas as pd

import matplotlib.pyplot as plt

from sklearn.linear\_model import LogisticRegression

from sklearn import metrics

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

from sklearn.neighbors import KNeighborsClassifier

from sklearn.metrics import confusion\_matrix

df = pd.read\_csv("/content/Iris (1).csv")

print(df)

feature\_columns = ['SepalLengthCm', 'SepalWidthCm', 'PetalLengthCm','PetalWidthCm']

X = df[feature\_columns].values

Y = df['Species'].values

X\_train, X\_test, y\_train, y\_test = train\_test\_split(X, y, test\_size = 0.2, stratify = y, random\_state = 0)

X\_train, X\_test, y\_train, y\_test = train\_test\_split(X, y, test\_size = 0.2, random\_state=42)

knn = KNeighborsClassifier(n\_neighbors=7)

knn.fit(X\_train, y\_train)

print(knn.score(X\_test, y\_test)\*100)

y\_pred=knn.predict(X\_test)

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

print(matrix)

* If we take the test size as 0.3 then the accuracy will be 100%.

OUTPUT-



