HOMEWORK 3

PROGRAMMING EXERCISE - IRIS SPECIES

Extend your HW2 Python program to be HW3 program which will predict the type of 2 iris flowers.

1. Continuing on your HW2 Python program, read the HW2 data file ("yourID_name_iris_data.csv") . In this CSV file, every line contains 4 features and 1 iris type (0/1/2), and there are 150 datasets (therefore lines) in total. Furthermore, these 150 datasets are randomly arranged in ordering.
2. Read the 1-112 lines as the training datasets, and 113-150 as test datasets.
3. Place the 4 features of training datasets into X_train array (112x4), 1 iris type into y_train array (112x1). Similarly, place the 4 features of test datasets into X_test array (38x4), 1 iris type into a y_test array (38x1).
4. Using the KNN method and X_train/y_train/X_test/y_test arrays, try to train the IRIS model until you "*bump into*" the case in which your test dataset score is 1.0. You most likely need to re-arranges the ordering of 150 datasets, therefore changing the training and test datasets.
5. Predict the type of new IRIS flowers with 4 features [5, 2.9, 1, 0.2] and [3, 2.2, 4, 0.9].
6. Print the types (*setosa (0), versicolor (1), or virginica (2)*) of these 2 new IRIS flowers on screen.
7. Estimate time needed: 2-8 hours
8. Due time: submit your HW3 Python program ("yourID_name_iris_hw3.py") and HW2 data file ("yourID_name_iris_data.csv")). We will test your program if it reads HW2 data file and print 2 new IRIS flower types on screen.