Assignment 7: KNN Classification

Steps:

(i) Load the required library.

(ii) Import the data set

(iii) Separating features and target values as X & Y

(iv) Take Input the ratio of test_train split and value of k (Neighbors)

(v) Split the dataset into testing and training dataset using the given ratio.

(vi) For each iteration (length of testing dataset), i

(a) Generate Neighbour for X_test[i] using training dataset as follows:

* for each iteration (length of training dataset), j

(A) Calculate Euclidean distance b/w X_test[i] and X_train[j]

(B) Append (X_train[j], y_train[j], distance) in a list

* Sort the list and select top k datapoints.

(b) Count the frequency of target (category) in the list

(c) Assign the target with maximum frequency as the class of all datapoints in the list or the datapoint in the test dataset

(vii) Compute the Confusion Matrix, Classification Report and Accuracy.