

You are given a code file *1NN_plotit.py*. You are to do the following tasks:

1. Modify the *predict* method in NN class such that it takes K as an input and performs K-NN classification instead of 1-NN.
2. Using your implementation of K-NN perform the following analysis for toy dataset. Also, Compare the performance of your implementation with SKlearn implementation.
 - a. How is run-time affected by increase in number of training examples?
 - b. How is run-time affected by increase in dimensionality?
 - c. How is training accuracy affected by change in K ?
 - d. How is test accuracy affected by change in K ?
3. Give some ideas on how you think you can make your implementation more efficient?

You are to submit the following files in a zipped folder:

1. .py file(s) containing the codes
2. A pdf report containing your results as plots and your deductions from the plots for each of the 4 tasks.

Please name your submission files in the following manner:

<roll no>_<name>_<section>

For example: i18456_Ahmad_Ali_MLDS_A

Additional resources for assignment

-  [1NN_plotit.py](#) (5 KB; Jan 27, 2020 5:48 pm)