Assignment No 8

kNN Classification and Regression

PART A: kNN Classification:

* You have Social network ad dataset with Gender, Age, Estimated Salary and purchased as column field. (Link: https://www.kaggle.com/datasets/rakeshrau/social-network-ads)
* Consider Gender, Age, Estimated Salary as input data and purchased as output label.
* Perform kNN classification on above dataset on different value of n\_neighbour( No of class) and different distance metrics.
* Plot the graph and do the conclusion with justification.

PART B: kNN Regression:

* Prepare the data set with height, Age and Weight.
* Consider height and age as input and weight as output parameter.
* Split the dataset in training and testing 80% and 20% respectively.
* Do the normalization of dataset
* Perform regression on different value of k
* Plot the graph between k vs accuracy , k vs RMSE
* Do the conclusion with justification

Perform following TWO tasks

1. Consider math as input and hon as output label
2. Consider female, read, write and math as input and hon as output label.

Estimate loss function, weights and accuracy in both tasks.

Plot the suitable graphs.

NOTE: kindly split 80% data for training and 20% data for testing.