

HW 2 (Simple linear regression)

Due date: October 3 (Tuesday), 2023

Please submit your solution along with other files that were used to get your answers. For example, if you used Matlab, please submit .mat (data file) and .m (main algorithm) files also.

#1. As for Abalone data in UCI repository (<https://archive.ics.uci.edu/dataset/1/abalone>), please use the first 500 observations as the training data and the remaining observations as the testing data.

- (a) Show the scatter plots using the training data and interpret them.
- (b) Use the length as an attribute.
 - i) estimate the regression coefficients using the training data.
 - ii) Calculate the MSE (mean squared error) for both training and testing data.
- (c) Use the shell weight as an attribute.
 - iii) estimate the regression coefficients using the training data.
 - iv) Calculate the MSE (mean squared error) for both training and testing data.
- (d) Compare the results of (b) and (c). Which attribute looks more important from these results?