

(c) (3 points) Run your code on the provided dataset for degree  $d = 24$  and each  $\lambda$  in the set:

$$\{10^{-15}, 10^{-9}, 10^{-6}, 10^{-3}, 10^{-2}, 10^{-1}, 1, 10^1, 10^2, 10^3, 10^6, 10^9, 10^{15}\}$$

- i. Perform 5-fold cross-validation on the 100 data points (20 data points in each fold). For each validation fold, compute both training (4-fold-based) and validation (1-fold-based) errors using the mean squared error measure.
- ii. Calculate the average training and validation errors across the 5 folds.