4. (12 points) [GUESS-TIMATING BIAS AND VARIANCE] You are given a dataset consisting of 100 datapoints in this folder. You have to fit a polynomial ridge regression model to this data.

   As seen in class, a model's error can be decomposed into bias, variance, and noise. A "learning curve" provides an opportunity to determine the bias and variance of machine learning models, and to identify models that suffer from high bias (underfitting) or high variance (overfitting). The "learning curve" typically shows the training error and validation/testing error on the y-axis and the model complexity on the x-axis.

   (a) (2 points) Read the last Section (Section 4) on "Bias and Variance in practice" in this document, and summarize briefly how you will heuristically find whether your model suffers from (i) high bias, or (ii) high variance, using only the train and validation/test errors of the model.