In this problem, we will use the data in `bias_variance_trade.txt` to practice using cross-validation in model evaluation. The first column is one sample of the independent variable x, while the second is the dependent variable y that corresponds to those points. The third and fourth columns are the same for a different sample of the independent variable. You will want to complete the Bias-Variance Tradeoff problem before proceeding.

(a) Fit the data from the first two columns using Legendre polynomials of orders 1 through 10. For each fit, preform leave-one-out cross validation and report the average error to the point left out. Note that this means for each order of polynomial, you will perform 20 fits. If you have not found a shortcut in your programming language of choice already, do so before proceeding.

(b) Identify the order of polynomial that yields the lowest average error. Is it the same as the best fitting models from the previous problem? What does this tell you about predictive modeling generally?