Preparation

Continue working with the notebook from the previous assignment (HW 2). Same general instructions apply.

Assignment: regularizing linear regression

Part 2: at the end of the previous assignment, create a top level text cell ('#' markup), and everything in this part with lower levels of markup (all headers must be '##', '###', or more)

1. Define a `sklearn.linear_model.Ridge` object and redo the fit (like in item 5 in previous assignment) for a range of values of regularization amount alpha (don't forget the `normalize=True` optional argument). Do this interactively - plug in different values of alpha and re-run the cell repeatedly, and observe how the plot changes. You can try the `min()` and `max()` functions to determine the range of y values.
2. Based on your experimentation in item 7, choose three values of alpha: one that is too small, one that is too large, and one that is just right. Make a copy of the cell in item 7 with each of these values of alpha. Note in comments (or in text cells) which is which, and how you know that based on the plot.
3. extra credit: if you tried to use a subset of the data consisting of only the first 50 samples (like the earlier class examples), would that be equivalent to using all the data (except that there would obviously be fewer data points)? Why? Put your answer in a text cell at the end of the notebook.
4. submit by saving the notebook in ipynb format (File menu) and uploading the file to the canvas HW submission page.