

**Instructions:** In these assignments the goal will be to compare the from scratch processes we looked at in class, to the functionality of built-in functions that perform similar tasks. You should compare the functionality of our custom-built examples and the ability to further customize them, to the functionality of package functions. Describe any limitations of the from-scratch versions and the built-in functions. Run an example dataset through both and compare the results.

**Submission:** Create a Word document that discusses the comparison. Include graphs and explanations here, which package functions you are comparing, etc. With your submission, include your R code file.

**Tasks:**

1. Compare the example of backward selection and best subset selection to the built-in functions for these tasks such as `step()` and `regsubsets()` or a similar package. Compare the functionality, and which metrics are used to determine stopping criteria (such as for backward selection).
2. Compare our custom implementations of KNN to built-in `knn` functions and compare the results on a sample dataset. What kinds of functionality can customization achieve that may not be available in the pre-built KNN functions? Use a timing function to determine how similar settings compare on speed. Test on a sample dataset.