**Probability and Applied Stats**

**Plotter, Salter, Smoother #2 MATLAB**

For part two of the project, I chose to use the MATLAB programming language where I began with the MATLAB Onramp tutorial as I have never used this software before. It started me off with simple math commands such as multiplication and division along with how to assign variables to them. Directly after this you are faced with calculating the mean of two numbers and assigning it to a variable. Then it jumps right into understanding data types and arrays. The tutorial shows you how to write scripts to automate your tasks and plot data using its visualization tool. This extensive tutorial even showed me how to work with matrices, linear algebra (which I haven’t even taken yet) and importing and exporting data. At first, I thought that we were supposed to create csv files as well as charts with each part of this project, so I had MATLAB also create csv files to go along with the charts I created. MATLAB allows you to create and customize graphs much faster and easier than done in part one of this project because it can all be done from one program. Rather than having to jump back and forth between your IDE and excel all the time, it is all conveniently in one place for you. After completing the tutorial, I was able to create a plotter, salter, and smoother program that creates the charts for me that follows a similar setup to the first part of the project. MatlabPlotter.m plots the Pythagorean theorem to a chart as well as a csv file. MatlabSalter.m reads the data on the csv generated from MatlabPlotter.m and salts the hypotenuse values. It then creates a chart and csv file of its own. Finally, MatlabSmoother.m reads the data from the salted csv file and smooths it through 5 iterations, outputting the results to a new csv and chart. Overall, the process of creating these charts was much simpler due to the fact that everything you need is available in one software.