Creating and Reading CSV in Octave

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April 26, 2024

About Program:

This program is similar to the Java program in that we are creating a CSV for x and y values and then reading that CSV to mess it up and then try to repair to as close as possible to the original. The difference is having to create it in a different language I did not know called Octave.

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# Results from learning Octave:

#### Basic Operations in Octave:

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#### Creating Matrixes /Tables and Using rand

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#### Learning to set X and Y values, Plot it in a graph, and save the file:

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# Results of Plotter, Salter, Octave:

#### Plotter:

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#### Salter:

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#### Smoother:

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# Plotter:

### Creation:

The creation of this was the easiest of them all because all I had to do was set the x values to the range I want, then I set Y equal to the quadratic formula and it will run the formula for every x value. After that I just plot using the method given, I turn on grid so that points are shown better and easier to read the graph. After that I label x and y axis and title the graph. Once I do that, I create the CSV through the built in method and to make it easier to format I make a variable values and put in x and y. Then I use the CSV method to make the file and input values as well.

# Salter:

### Creation:

This was also pretty easy because it is just a copy of the Plotter, the only difficult part was getting the CSV values into an x and y, but I was able to find how to do it pretty quickly and it is also very simple. Once I read the CSV file and put x and y into a separate list, I use a random number generator called randi and I add or subtract to the y index. I use a for loop so that it loops through all values.

# Smoother:

### Creation:

This was the hardest one to do due to my code not working even though I used the same logic from my java code in the format for octave. My code wasn’t working and wasn’t plotting the graph or saving the CSV file. I tried to restart multiple times and break it down into multiple parts, but nothing. After I reset the program, I am using, it then started working so I think it was a bug or something but it did make this very confusing. However, to explain, this code is just a copy of salter except the for loop being used and some extra variables I created for the for loops being used. I created the window value, the average total, and the number of times the code gets smoothed.

# Conclusion:

The hardest part of this program was just watching the videos, and looking at the textbook for this program that explained and gave examples on the functions and methods that can be used. Another tough part was the formatting because it is a bit different from Java and making it run at first was hard. However, once I figured out the formatting and methods to use, I was speeding through this part of the project. I did, however, learn another real-life skill of being given a task to learn a new programming language and create a working piece of code that shows enough proficiency. It was not easy at first since I had to do a lot of research, but it gives me more confidence that in the real world I have some experience in that aspect so I won’t get lost if they give me a task similar to this out of nowhere.

# Bibliography:

## These are the websites, docs, and videos I watched in the process of learning about Octave.

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