

Aaron P. Mills  
Prof. Wang  
Intro to internet Computing (COP3813)  
24 October 2021

## Project 3

### General Experience

Once again, I found this project annoying to start. Initially, my understanding of Javascript was poor. The arithmetic, error checking, & even computing with more than 3 numbers sounds simple to me. But figuring out how to gather user input & display my computations was mind-itching.

As soon as I figured out how to take user input, the rest of the project was fun. I gathered user input into an array, did the computations, & displayed them. I took the freedom of error checking as well, which took slightly longer than expected. What I thought would be simple kept becoming a more complicated problem, but it wasn't a headache.

### Editor

The editor I used was Visual Studio Code (VSC). I'm not switching the editor. I'm used to this software & enjoy it's tools. Something I learned during this project was that I did not have to keep dragging the HTML to Chrome to see my changes; I only had to refresh the page. Also, I learned how to use the Chrome console.

### Mistakes & Time Consumes

The most painful part, as previously mentioned, was gathering user input. Once I got user input, I simply used the parse function that was taught in zybooks.

### Validation

I first tested with Chrome. I continuously checked after every significant update, as any coder would. I tested for every possible numerical error I could think of. I used negatives, large numbers, scientific notation, smaller scientific notation numbers, decimals. I did not account for fractions as that is merely division to me. I've tested on Chrome, Firefox, & Edge, per usual; but of course, it looks wrong on the phone again. That will be fixed shortly.

### Possible Improvements

- A better looking bootstrap?

I suppose I could have used a more pleasant bootstrap, but I don't feel bootstrap adds anything of value to this project. If I had more features, I'd use a template with more elegance.

- More statistics?

Variance & standard deviation would be fun but honestly, those are extremely simple formulas. Mode it was I'm interested in. If someone entered 500 numbers, wouldn't I need many variables to count the many different numbers? For example, a variable to count the 71's, a variable to count the number of 36's, ect. Calculating mode for an array of 3 is practical, but I'm not too sure how to calculate mode for 100 different numbers because that requires many different counter variables.

- More variables?

I would not mind writing code that accounts for more than 3 numbers. Part of my code does that actually. However, I am short on time as of this moment & would like to keep the project simple for future reference, as it was already a pain with the Javascript.

That being said, if I were to implement a single textbox field to for someone use any amount of numbers, I would do it like this:

- 1) I would record the string from the textbox field the same way I did in the project
- 2) I'd use a for loop to add each individual character to a variable named sample
- 3) Then, for every ',' character, I'd add push sample onto an array, then empty the string so it can record the next number.
- 4) Once loop counter reaches last character in textbox, it will add sample to the array, because nobody is going to end the textbox with a ','.
- 5) After all strings are recorded into the array, I would have another for-loop to check if each element is a number using my "isNum" function.
- 6) If the array is full of numbers, then I will sort it the same way I did in the project.
- 7) From there, my calculations will compute, as I have already accounted for more than 3 numbers in my code.
- 8) After all that, I would still have to edit my code for the errors & delete the textboxes.

I would like to do this right now but unfortunately, I'm short on time & prefer to keep the project focused around Javascript input & output rather than arithmetic / logic.

### Conclusion

I'm sure I'll use this project again, as it provides a nice foundation for when I forget how to write Javascript. I believe I might even enhance the calculator using my "pseudo-code" above, to accommodate for future projects. This was an interesting project.