Project #1
CS 2210 – Fall 2022
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I. Requirements: Use the Linux system and VI Editor through john to create the numeric package and a GCD and Factorial classes in Java.

II. Design: As this is our first project in this class, it was fairly basic, and the design was given to us. Inside the two classes there was two blocks. First, was the main function. This function took in the inputs as command line arguments and translated them into inputs the static function (mentioned next) could use. It also outputted the results to the console using System.out.println(). Secondly, each class had a static function in it to run the actual algorithm. All it did was input the variables and output the correct solution.

III. Security Analysis: User input is received as a string from the user. Thus, a potential vulnerability of the program would come from the user entering an unexpected string which could impact correct execution of the program. There are currently no safety-measures in check to make sure that code or an over/underflow attempt are inputted into the program.

IV. Implementation: I simply created the files, main function, algorithm, and made sure it ran correctly. Each main function starts with a check for args.length, and it simply runs the function and outputs the answer.

V. Testing: I tested everything the project document asked me to test. After I was sure that the programs were working correctly, I did some input testing. I used negative numbers, too many args, too few args, too big of numbers, etc. The only thing I found was that Factorial does not work past the number 12 because of integer overflow.

VI. Summary/Conclusion: The program appears to function properly. It gives the correct answer for all valid strings and throws the correct exception for illegal strings.

VII. Lessons Learned: I have re-familiarized myself with how to code in Java and how to use the Linux environment, coding with the vi editor.