Project 1 Write Up

– How did you approach the project?

I started the project two weeks before the due date, and planned to complete each step as specified in the instruction pdf

– How did you organize the project? Why?

I planned to finish the programs individually in order of specification, and only at the end tie everything together with pipes

– What problems did you encounter?

* My first problem was forgetting how to manage stdin/stdout in python
* Getting the formatting right for output in the logger program
* Figuring out the math behind the vigenere cipher
* Getting input edge cases right in the encryption program
* For some reason, when I passed 'QUIT' into the encryption program, it didn't
* I would process number input as integers, even though all stdin comes in strings
* For some reason, fullmatch() wasn't recognized as a function
* Broken pipe error
* Code gets stuck on awaiting output from encrypt program

– How did you fix them? (Respectively)

* Had to look up examples online
* Using a debugger helped me understand where exactly my print statements were outputting incorrectly formatted messages
* Drawing out how a vigenere cipher worked on paper allowed me to understand the math required to convert input text into ciphered text
* Trial and error and efficient use of the debugger helped greatly
* I had to change the encryption program's stdout to sys.stdout since otherwise debugging via print statements wasn't working. I had to use print debugging since for some reason, VSCode's python debugger wasn't detecting breakpoints in the processes. I finally figured out that I was using [:-1] to get rid of the newline character in the encryption program, and it was removing the 'T' in 'QUIT' causing problems. Ended up switching to rstrip()
* Strings were being added together due to Python’s orthogonality
* I had to change to python3 since python2 doesn't support fullmatch()
* Broken Pipe fixed by closing stdin for subprocesses
* Needed to flush stdout in the encryption program to stop getting stuck

– What did you learn doing this project?

- I am significantly more confident in making simple python scripts

- I understand the importance of organizing clean code plentiful with comments and simplified cognitive complexity a little more. The driver program ended up doing a lot more work than what I had accounted for initially, so it wasn't very organized.