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Assignment 3

The assignment was about translating a C code into assembly and vice versa for the next part and analyzing the results of the implementations.

MYSTERY

- # How I Figured It Out:

  Looking at how the variables are stored and manipulated in the stack from the assembly code, I have figured out that the program uses recursion in order to find specific values to do operations on. I traced the code in mystery.s file and tried to figure out the C code suitable from that. I also compiled the code in order to see how the program flows and gives results using actual input. As a result, I was able to decompile the file successfully.

- # Optimization:

  My guess would be that after optimizing, the program used less space in order to tweak the process along when compiling according to the change in stack behavior. Probably because the compiler has an idea of how many registers are used before compiling entirely and thus changing the code accordingly to use suitable space in memory rather than over-occupying unnecessary space.