

Vladislav Tsoy

CS-211

Brian Russell

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## **Assembly Language Programming**

### Design and Implementation:

Mystery is designed to take in the users integer input less than 200 and print out the corresponding fibonacci number. I also found it helpful to comment out the assembly code and write out what it does right next to it, and then write the C code below it. I used online resources like stackoverflow to help me translate the assembly code. The changes that the compiler made when optimizing my C code was that instead of 64 bit register, 32 bit registers were used. And instead of using quads it was using longs. Besides that there were minimum changes in the actual code.

### Challenges:

The biggest challenge I had was trying to understand assembly level programming. I felt like there were a lot of unnecessary lines which confused me a bit when I was trying to write the code in C. The num array was tough to decipher at first too.

### Big-O:

Since  $\text{num}[x] = \text{dothething}(x-1) + \text{dothething}(x-2) \approx n^2$