

FIBONACCI
Design Plan/Project Writup

Jack Spence

TDQC – Cohort 5

25 Jan 2019

1. Write-Up

1.1 Requirements

Requirements were to create a program that will take an integer from the command line and use that to produce the Nth Fibonacci number and display it in hex. The initial range of acceptable numbers were 0 through 100.

1.2 Suggested Features

Suggested feature attempted in my submission is to allow numbers up to 300 to be passed in on the command line.

1) make || make fibonacci

2) .fibonacci <NUM: 1-300>

2. Project Design Plans

2.1 Initial Design Plans

My initial design plan was to try and utilize xadd for the Fibonacci variables as they are calculated. This ended up working fantastic until around the 93rd Fibonacci number, which cause a carry into the next register.

2.2 What didn't work

I had gotten the xadd to work as initially intended but I did not realize that I could chain xadd and adc together. I had rebuilt my solution with add and adc instead and had a working solution, minus the first byte not outputting correctly, but I switched back after I found the error in my ways.

2.3 What went well

While at first I had thought that xadd was a trick with how simple it was to implement, it turned out to work quite spectacularly for this project.

2.4 Conclusion

I have come to the conclusion that I never wish to code in assembly if I can avoid it. On the other hand, I can find appreciation in the simplistic nature of everything it offers. Its bits, all the way down.