11/1/2020  
  
It looks like I bit off a little more than I can chew. In order to get to the exciting part of building the computer, I’m going to skip making a custom PCB for it. I plan on just having solder based breadboards in order to prevent connectivity issues and allow a little more room for error in the design process. This also means that I will be skipping features which would take more work in planning, like the one micro instruction fetch cycle

Also, In order to get some of the modules built in a timely manner I might alternate between designing modules and building them.

After a module is “designed” I’ll need to make a final draft of that design, where I figure out what chips I’ll be using and their specifications.

This also means that the register file is complete, and I can now begin to work on another module.

So the updated layout will look like this:

R0 general  
 R1 general  
 R2 general  
 R3 general  
 R4 general  
 R5 program counter  
 R6 frame pointer  
 R7 stack pointer

It’s a little difficult balancing this project and my schoolwork so if I just lower my expectations for this project a little I think it might be somewhat more manageable.

9/6/2020: Here is a possible layout I am thinking about implementing with the register file:

R0 general  
 R1 general  
 R2 general  
 R3 general  
 R4 general  
 R5 general  
 R6 frame pointer  
 R7 stack pointer

I want to have the program counter outside of the main register file so that I can add a special timer circuit to it, so that maybe I could perform the fetch cycle in one instruction: i.e.  
use the program counters old value while setting a countdown increment.

Also, to implement a link register I will just store return addresses on each stack frame, and the same applies to the addresses of prior frames.

I am not sure if I am forgetting to add any vital registers, so I may need to return to this design.

I think I am done with the main operand register file, now I just need to add in the special registers and correct some wire colors.

I need to send the read enables to the control unit so that operands can be sourced from other locations than the register file.s (done)