

# **Final Project**

**COEN 122** 



# **Grading**

• Lab 1-4 (10% each) 40%

• Final Project 60%



## **Late Policy**

 Late submissions submitted within 24 hours after the deadline receive 50% credit. After 24 hours, no credit is given.

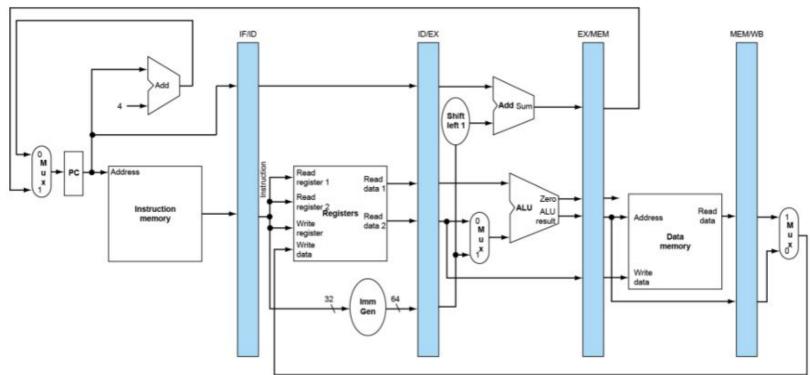


#### Demo

- Labs submitted with no demo will receive no credit. Please demo to me before the lab is due.
- You can demo in either TAs Office Hours

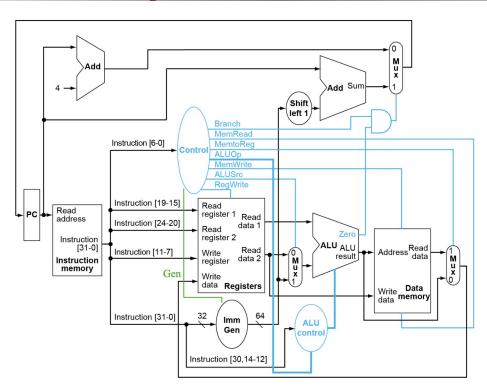


## Simple Datapath for Single Cycle





### Simple Datapath with Control Unit





#### **Approach**

- Build remaining modules for CPU
  - Program Counter
  - Immediate Generator
  - Control Block/Unit
  - Logic Gates
  - Modify Buffers to Include Control Unit
- Create CPU testbench file to begin assembling datapath



#### **Approach**

- Build IF (instruction fetch) stage and make sure it looks ok in waveforms (no Z's and X's)
- Build ID (instruction decode) stage
- Build EX (execute) stage
- Build WB (write back) stage
- Convert demo program to binary and load into instruction memory
- Run and Debug
- Demo!



#### **TODOs**

- Truth Table for Control Unit
- Build Remaining Modules
- Convert Assembly Code to Binary
- Start Finalizing Datapath