See other files at:
lab1/lab1.srcs/sources_1/new/alu.sv
lab1/lab1.srcs/sim_1/new/alu_tb.sv
lab1/cs391r1_f2025_Lab1.pdf

Lab 1

What I encountered during the process:

I was originally testing control like:
        reg control [3:0];
….
        control <= 0; …
….
        control <= 10; …
….
And it ended up the second assignment left control with 4'b1010. I then fixed it into "4'b0010" and updated all other assignments.

Similarly, I didn't put assign before "error = 1'b1" and "error = 1'b0", and had assigned error before "always_comb begin". I fixed them accordingly by referring to the manual and searching online.

I didn't see how I could left shift or right shift in the manual, so I went to search for the operation sign - I hope that using >> and >>> is allowed.

I also saw that I might could have used a case statement instead of if-else statements. I found that out from the manual as I finished almost the whole thing, so I didn't try that out yet.

Installation

I have installed Vivado locally on WSL and it was not hard with enough instructions (And disk space).
If this is designed to remain a choice for future students,
I encountered minor problems installing, mainly, I needed to ask the TA for which hardware kit I should include in my download (in a page like this)

And I was looking online for instructions and which version to choose.
https://people-ece.vse.gmu.edu/coursewebpages/ECE/ECE448/S23/resources/Xilinx_Vivado_Installation_Instructions.pdf
This one from another university, plus some other posts online, has been helpful.I think I found an official Vivado guide to install on WSL on the official website as well.
Then,
I had to chmod to allow permission to write to a location;

        sudo mkdir -p /opt/Xilinx
        sudo chown -R $USER /opt/Xilinx

To execute vivado &,
I figured to run installLibs.sh that comes with the Vivado file;
What was actually stopping me from executing Vivado was this error

        Vivado/bin/rdiArgs.sh: line 37: warning: setlocale: LC_ALL: cannot change locale

(en_US.UTF-8): No such file or directory
And probably because I am using a computer OS not natively installed with English(US) system,
I generate and set the locale by running sudo locale-gen "en_US.UTF-8"