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Project 4 Report

In this project, we created four important modules. First was a loadable 16-bit register, with a signal (STEP) that would control when the contents of the register are updated. Second was a 16-bit ALU which is a combinational block that implements eight different operations. Addition, subtraction, shift left, and rotate right are examples of operations found in the ALU. Third was the register file which had eight registers, but only one register could be written at a time. However, two registers may be read at the same time. Lastly was the memory, which had 64 locations, with each being 16-bits wide. This would take data in when step and write are both active. All these modules had a test bench which tested functionality of the modules through a simulation. This allowed us to visually check if any mistakes were made.



