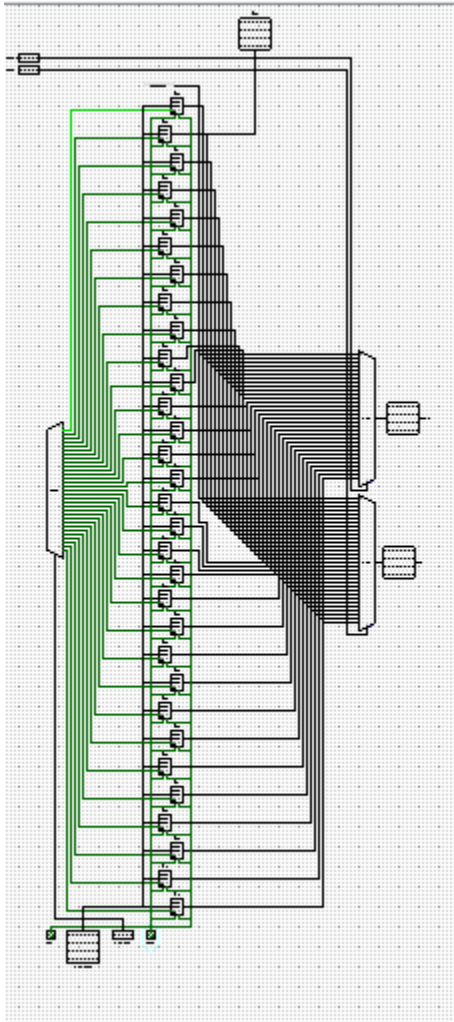


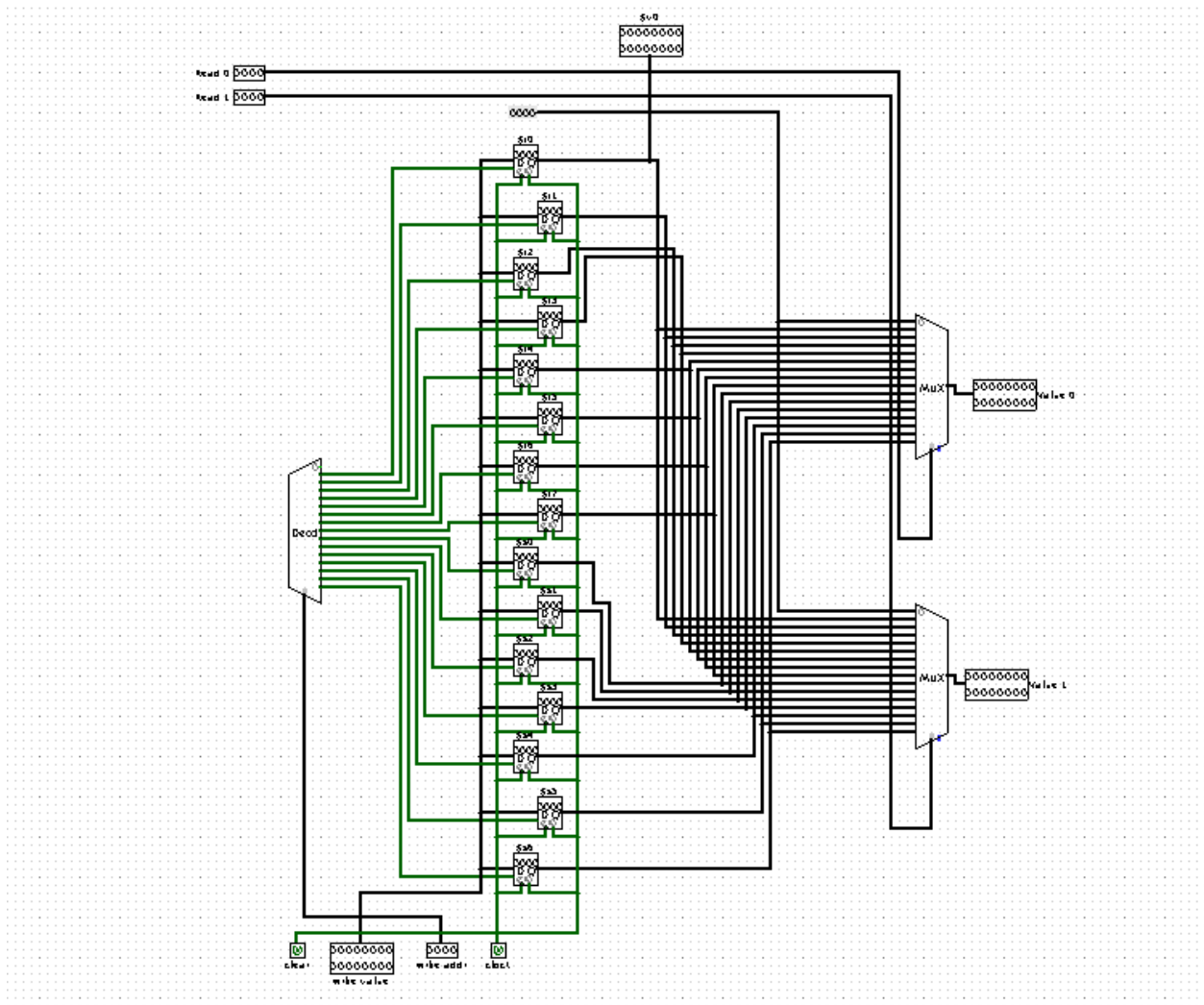
## Lab 8: RISC processor Design(Components)

Task 1: Study and the following 32x32 register file with two read port and one write port. Perform read and write operation and understand the operation of a register file. ( sample design give: mips\_regfile.circ)

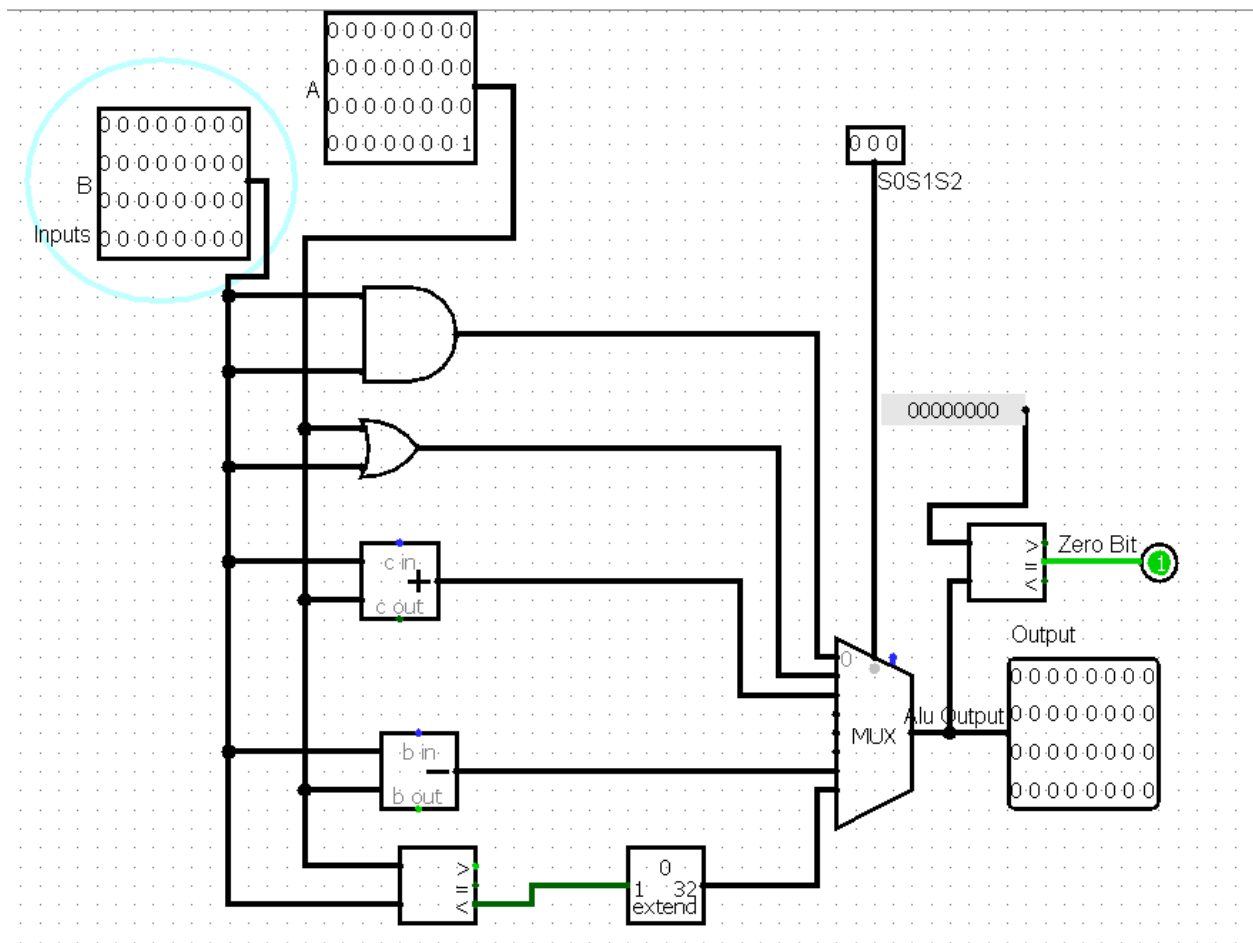


**Your Task:** Design a **16x16** register file with two read port and one write port. Perform read and write operation and understand the operation of a register file

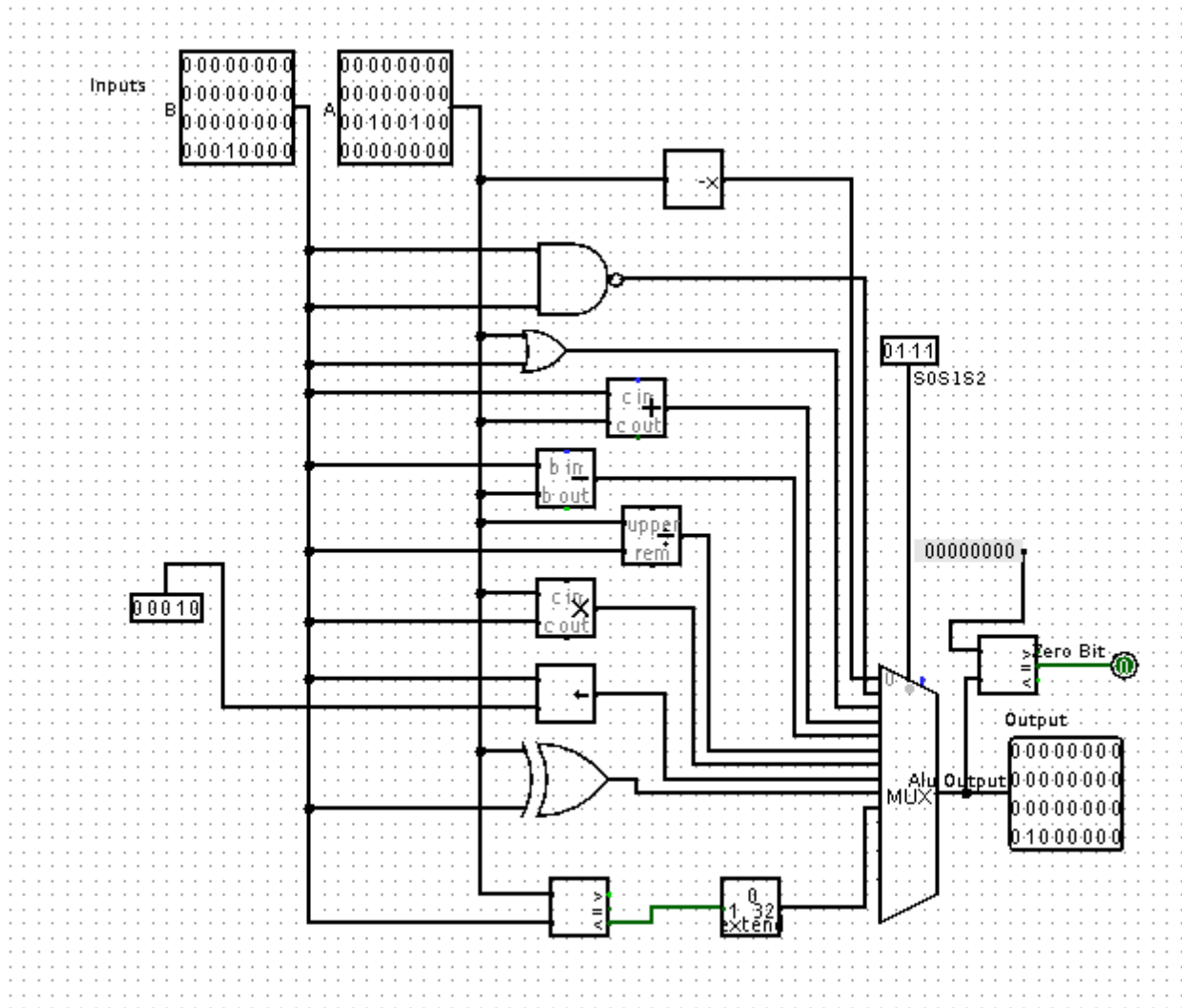
**Answer Here:**



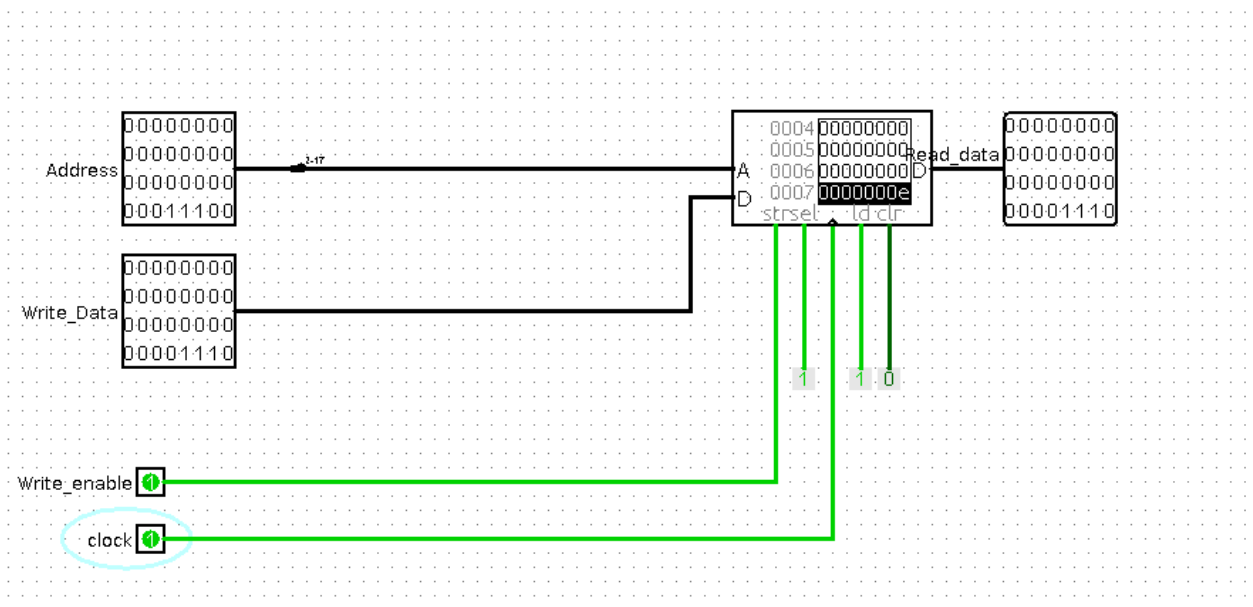
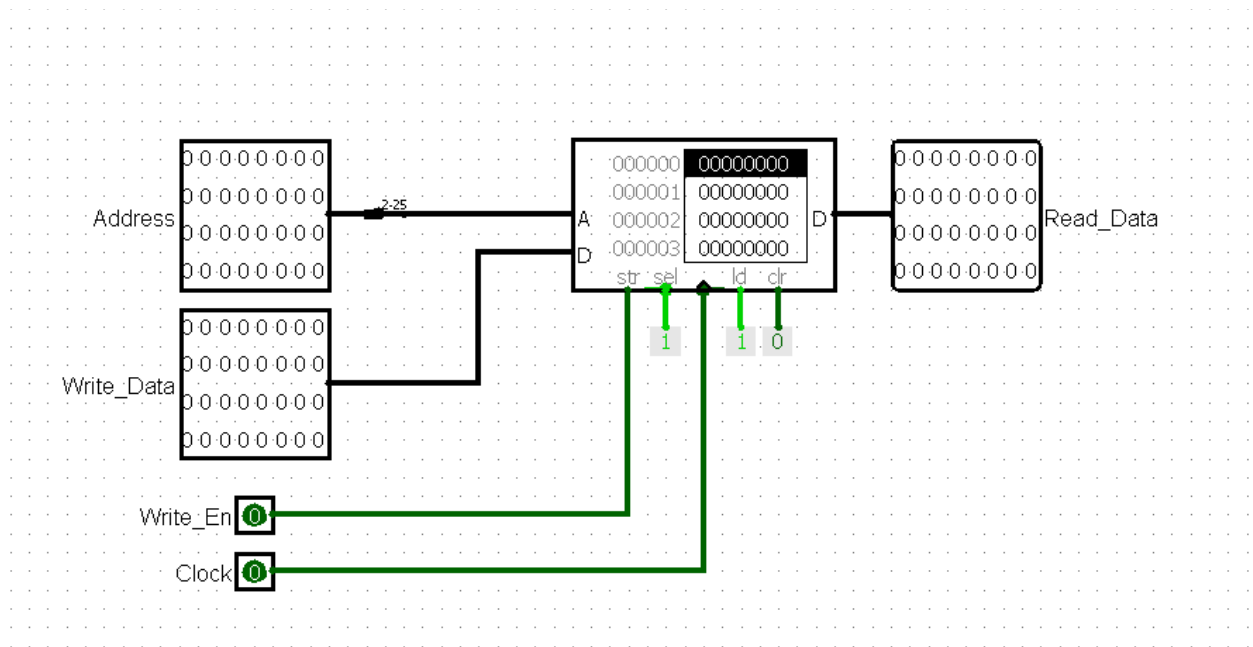
Task 2: Study the give 32 bit ALU. Identify the operations and corresponding control word (S0S1S2). Re-design the ALU with 5 more operations which are suitable for implementing MIPS instruction set.



***Your Answer Here;***



**Task 3: Perform read/write operation in the given memory block. Re-design with a new memory size.**



**Submission :**

Submit single doc/pdf file with above answers. Course work submission through [cs322.iitp@gmail.com](mailto:cs322.iitp@gmail.com) with subject: YourrollNo\_Lab7. **Due on** 8<sup>th</sup> October 2018 , 5PM.