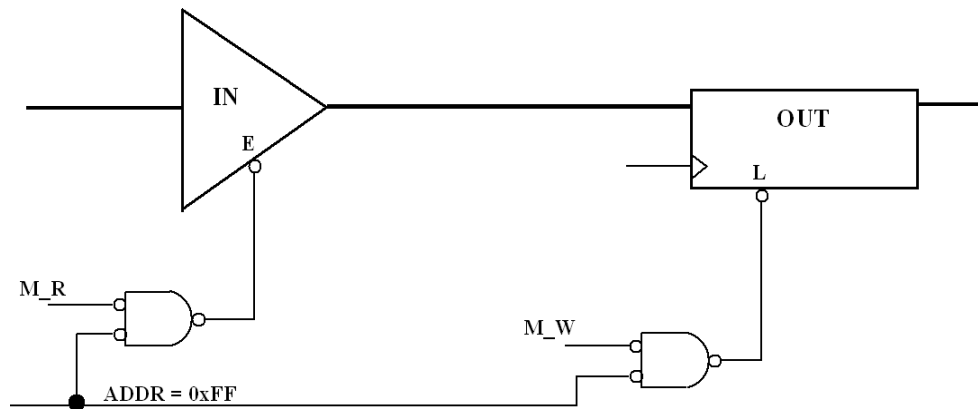


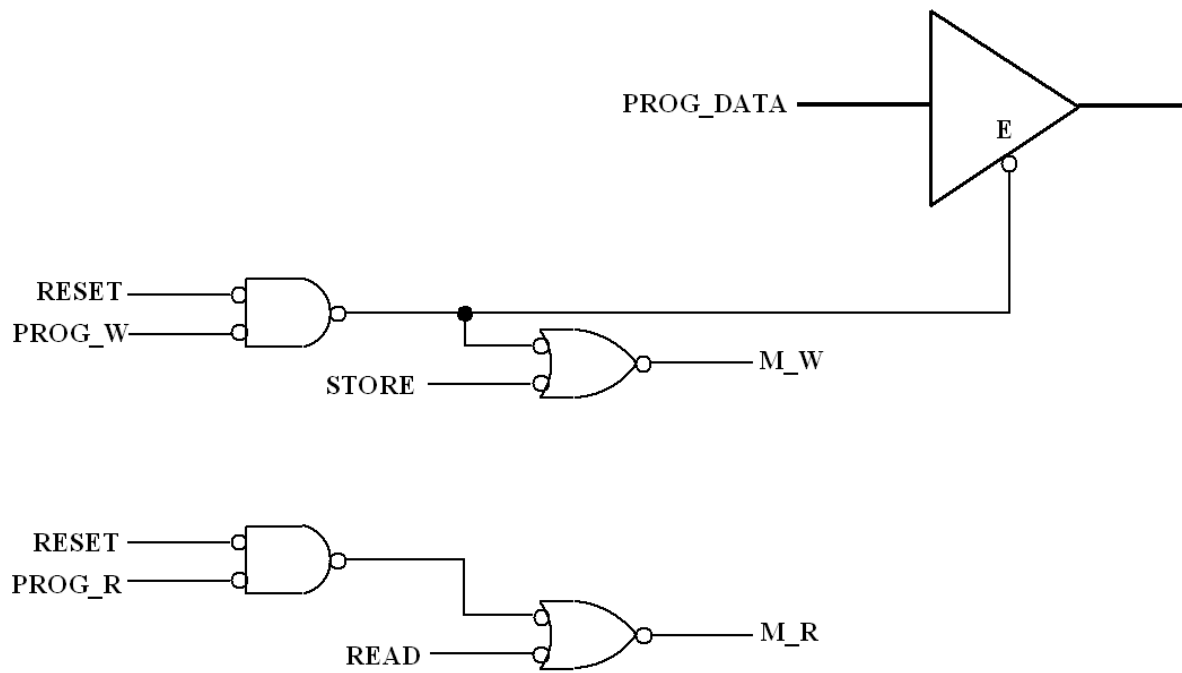
Lab 4 Prelab Part 1

1. Look over section 3.8.8 of Brown (pp. 132-134) that discusses Tri-state Buffers. There are three tri-state buffers in the circuit diagram of the final computer. What type of buffers are they? How many bits do they hold?
2. Analyze this portion of the computer circuit diagram:



Draw the truth table for the two gates shown. What are these gates equivalent to? What combination of signals will enable IN? What will enable OUT? How could this be useful to you?

2. Analyze this portion of the computer circuit diagram:



Draw the truth table for the second level gates. What are these gates equivalent to? What combination of signals will enable **M_W**? **M_R**? (What combination of signals will bring **M_W** and **M_R** low?) When will **PROG_DATA** be enabled?

3. Look over Lab 4, and the computer block diagram in the lab overview. Try to understand how the three example instructions work.