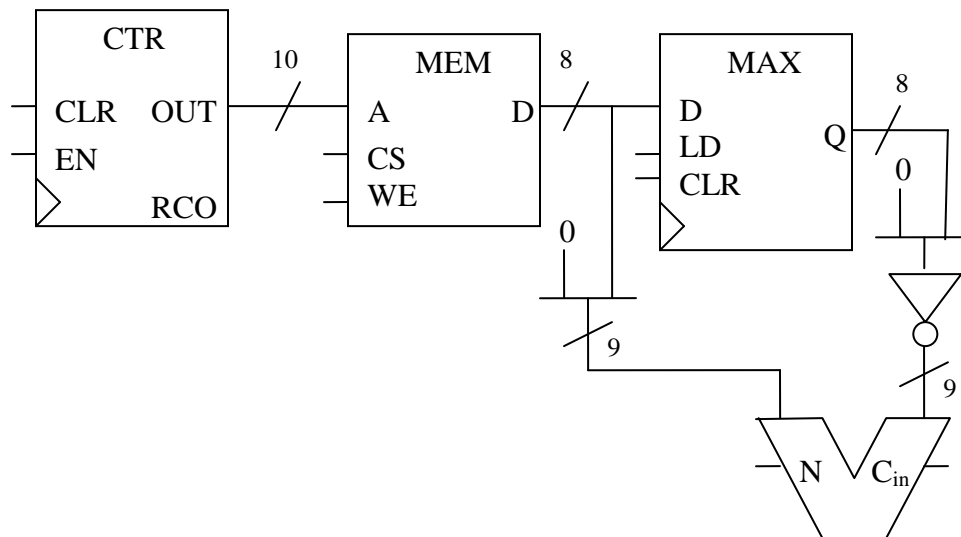


HW Quiz 9

EECS150, Fall 2010 NAME _____ SID _____

Design a system to find the max of all of the unsigned 8 bit numbers stored in an SRAM. Assume that you have a ripple carry adder, and an SRAM organized as 1024x8 with CS and WE control inputs. The system should start this operation when a RESET line is asserted. Assume that the RAM and adder are fast compared to the clock (i.e. don't worry about propagation delay).

- Clearly show the components and wiring of the datapath. You may use the adder, SRAM, registers, counters, MUXes, and logic gates. Label the widths of any multi-bit lines, and indicate the bitwidth of the adder and any registers that you may use.
- List the control lines in the datapath.
- Show a state diagram of the controller for the system.



- Datapath inputs:
CTR_CLR, CTR_EN
MEM_CS, MEM_WE
MAX_LD, MAX_CLR
ALU_Cin
Datapath outputs:
CTR_RCO, ALU_N

- FSM – MEM_CS=1, MEM_CS=0, ALU_Cin=1

