

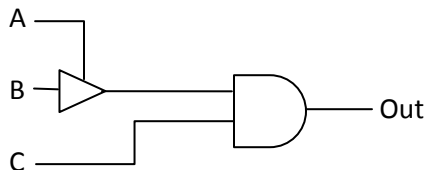
Individual Homework 5 -- EECS 270, Fall '09

Due Monday, Nov 2nd @2:00pm.

Name: _____ unique name: _____

You are to turn in this sheet as a cover page for your assignment. The rest of the assignment should be stapled to this page. See the website for details about where to turn in your assignment. This is an individual assignment; all of the work should be your own. Assignments that are unstapled, lack a cover sheet, or are difficult to read will lose at least 50% of the possible points and we may not grade them at all. This assignment is worth about 1% of your grade in the class and is graded out of 30 points. Remember you may drop two assignments (individual or group)

- 1) Consider the circuit found below. Supply a truth table that describes this circuit. Write "HiZ" if the value is high impedance, and '?' if the value is unknown. Otherwise write a 1 or a 0 as normal. **(4 points)**



- 2) Draw a state diagram for a clocked state machine with two inputs (INIT and X) and one Moore-type output (Z). As long as INIT is "1", Z is held at 0. Once INIT is 0, Z should remain 0 until X has been 0 for two successive ticks and has been 1 for two successive ticks, regardless of the order of occurrence. Then Z should go 1 and remain 1 until INIT is again asserted. Your answer should be neat and have no more than 10 states. **(9 points)**
- 3) Draw a state diagram for a clocked state machine with one input (X) and two Moore-type outputs (A and B). A should be high iff 2 or more of the last 3 values on X were a 1 while B should be high iff all of the last 3 values on X were a 0. **(9 points)**

