Quiz 4 EECS 270 Spring 2022.

Name: _____ uname: _____

Honor code:

I have not given or received aid on this quiz, nor have I observed anyone else doing so:

Sign here:_____

This quiz is graded out of 100 points and is worth about 4% of your class grade. You will have *20 minutes* for this quiz. ***Closed everything including calculators!*** To receive partial credit, work must be shown.

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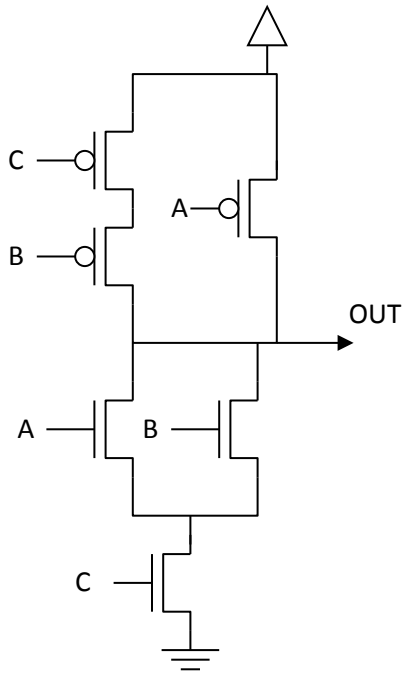
1. Transistor to truth table **[35 points, -6 per wrong or blank entry, minimum 0]**



A	B	C	OUT
0	0	0	
0	0	1	
0	1	0	
0	1	1	
1	0	0	
1	0	1	
1	1	0	
1	1	1	

Fill in the above truth table with either “1”, “0”, “Hi-Z” or “Smoke” (the last if OUT is connected to both Vcc and Ground).

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2. Using a single D-flip-flop and no more than three standard gates, design a T-flip-flop. Recall a T flip-flop has two inputs: clock and EN as well as two outputs: Q and Q_{bar}. **[35 points]**

3. Say we wish to design a memory with that where each location has 8 bits of data using the figure to the right. **[30 points]**
   a. How many addresses would you have? _____
   b. There are 5 blanks in the figure. Fill them each in with values that would complete our design. Let address bits be a bus named "A" and the output be a bus named D.