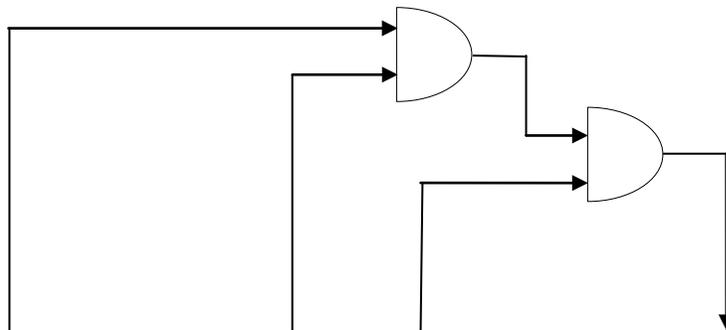
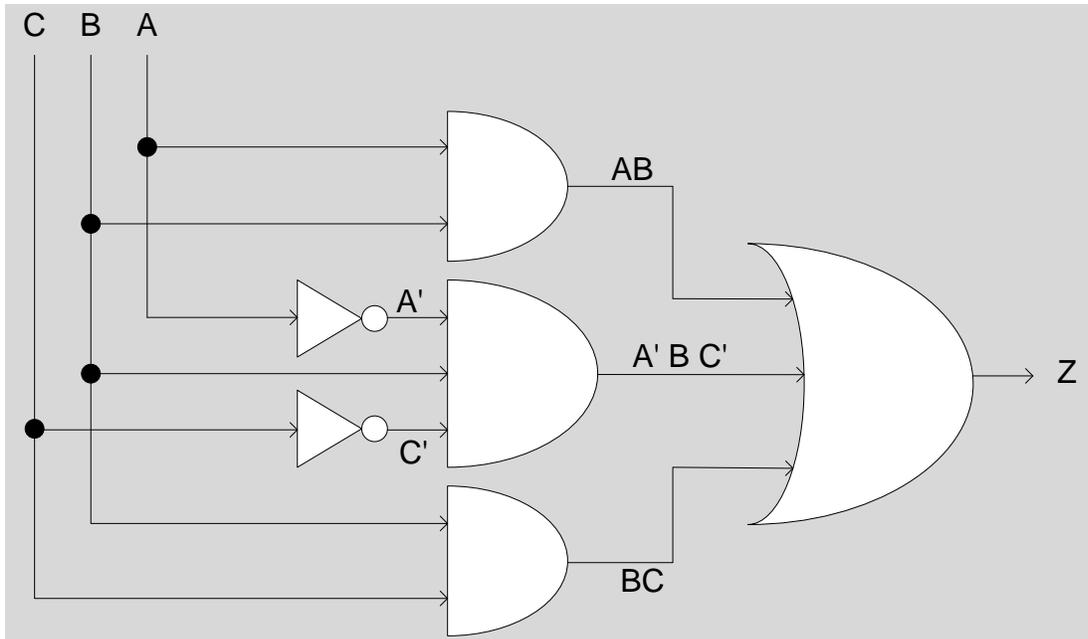


PRE-LAB

Complete the truth table for the circuit below.



A	B	C	A'	C'	AB	A'BC'	BC	Z
0	0	0	1	1		0		
0	0	1	1	0		0		
0	1	0	1	1		1		
0	1	1	1	0		0		
1	0	0	0	1		0		
1	0	1	0	0		0		
1	1	0	0	1		0		
1	1	1	0	0		0		

LAB

In this lab, you'll receive instruction on using the protoboard, researching logic chips, and using data sheets.

1. Find data sheets for the 74### series NOT (7404), AND (7408), and OR (7432) logic chips. Note, for the AND and OR chips, find devices that have four logic gates per package (quad) and find a NOT chip with six gates (hex).
2. Using the protoboard, connect the NOT chip and verify each gate on the chip by varying the input and examining the output. The input should be connected to a switch and the output should be connected to an LED. Complete a truth table for one NOT gate on the chip.
3. Using the protoboard and logic probe, connect the AND chip and verify each gate on the chip by varying the inputs and examining the output. Inputs should be connected to switches and the output should be connected to an LED. Complete a truth table for one AND gate on the chip.
4. Using the protoboard and logic probe, connect the OR chip and verify each gate on the chip by varying the inputs and examining the output. Inputs should be connected to switches and the output should be connected to an LED. Complete a truth table for one OR gate on the chip.
5. Using the 7400 series logic gates, implement the circuit above. Verify operation by comparing the circuit performance to your truth table. Demonstrate your design to your instructor.