

CSI 250 - HW 1 - SPRING 2010

1. Show the truth table corresponding to Diagram 1?
2. Draw a diagram for AND, OR and NOT using only NOR gates.
3. Draw a circuit for f using AND, OR and NOT gates

$$f(A, B, C) = A\bar{B}C + \bar{A}B\bar{C} + \bar{A}BC \quad (1)$$

4. Are the following functions equivalent? Explain.

$$f(A, B, C) = ABC + A\bar{B}\bar{C} \quad (2)$$

$$g(A, B, C) = (A + B)\bar{C} \quad (3)$$

5. Write a Boolean equation that describes F in diagram 2 using SOP form.
6. Use a 4-to-1 MUX to implement the following functions:

A	B	F	G
0	0	1	0
0	1	0	1
1	0	0	1
1	1	0	1

7. Finish the internal pieces of the 4-to-1 MUX in Diagram 3.

Diagram 1

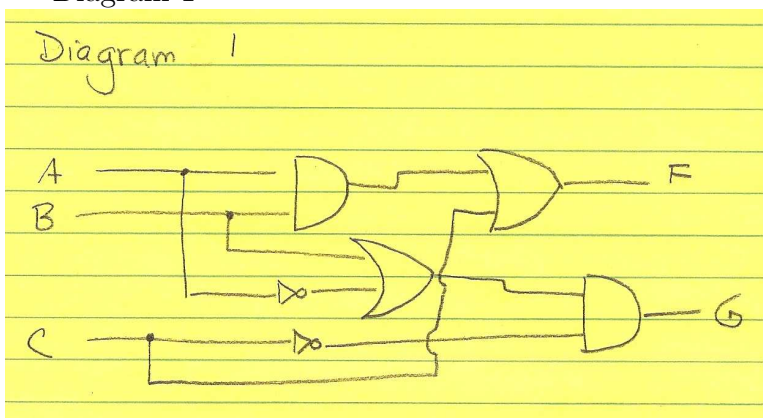


Diagram 2

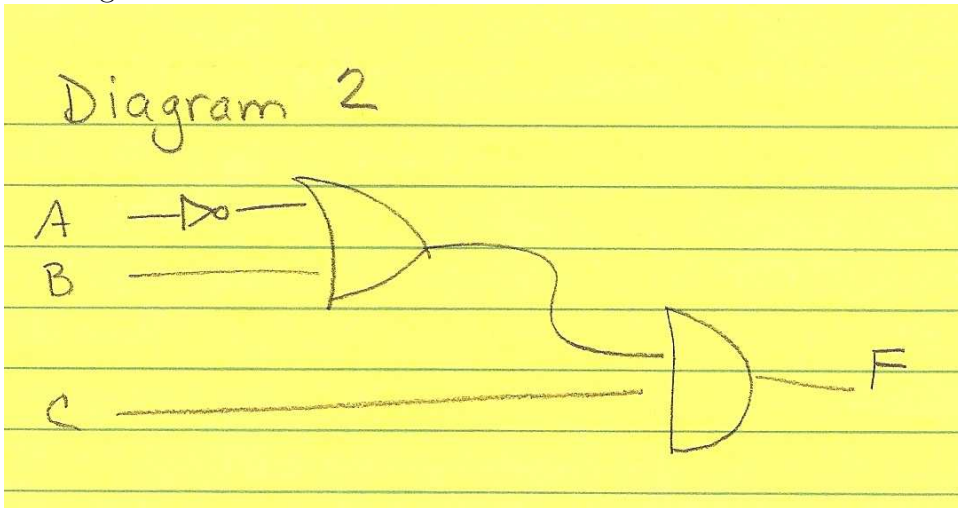


Diagram 3

