

## COEN 21 – Laboratory #1

### Introduction to Logic Gates

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#### Lab Report

1, My schematic in my pre-lab was correct.

2. N/A (schematic was correct)

3. If we swapped the AND gates for OR gates and visa-versa, the alarm would ring if there was any movement, or the switch was turned on. This would mean that the lights would take the function of the Alarm and visa versa. It would be an incorrect circuit because of this, as the purpose of the alarm is to make a sound when both the switch and motion sensor are triggered. The lights are meant to turn on only when the motion sensor or the switch are triggered. In conclusion, the swapping of the gates would result in a circuit that does not fulfill the problem's criteria.

Changed Truth Table if we swap the AND & OR gates:

S	M	L	A
1	1	1	1
1	0	0	1
0	0	0	0
0	1	0	1