

Lab1 - Breadboard

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ECEN 220
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Preparation Work

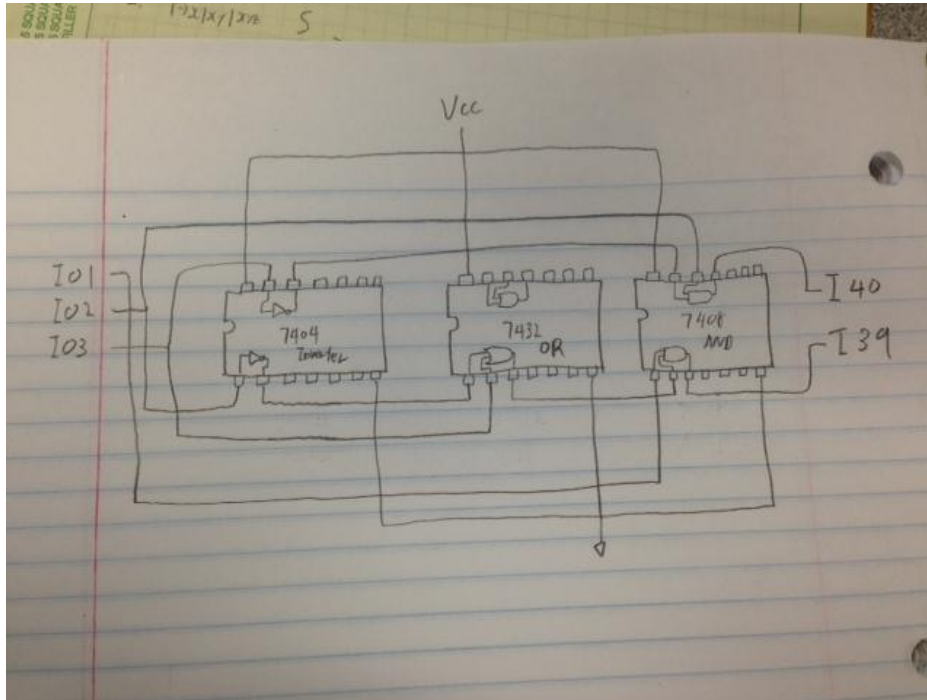
A (Low)	B (Cord)	C (Temperature)	Alarm	Fan
0	0	0	0	0
0	0	1	0	1
0	1	0	1	0
0	1	1	1	0
1	0	0	0	0
1	0	1	0	1
1	1	0	0	0
1	1	1	0	1

$Alarm = B \cdot A'$
 $Fan = AB'C + AB'C + ABC$
 $= (A' + A)B'C + ABC$
 $= B'C + ABC = (B' + AB)C = (B' + A)C$

Schematic

Alarm turns on when low battery and Cord is not connected.
 Fan turns on when Cord is connected or not low battery,
 and when temperature is high.

Schematic of the circuit



I used 5 gates, but 3 chips. I used 7408(AND gate), 7404(Inverter), and 7432(OR gate).

Result of the circuit

A(Cord)	B(Low Battery)	C(Temperature)	Alarm	Fan
0	0	0	0	0
0	0	1	0	1
0	1	0	1	0
0	1	1	1	0
1	0	0	0	0
1	0	1	0	1
1	1	0	0	0
1	1	1	0	1

Anomalies

I didn't have any bugs.