ECE M16 Homework 2

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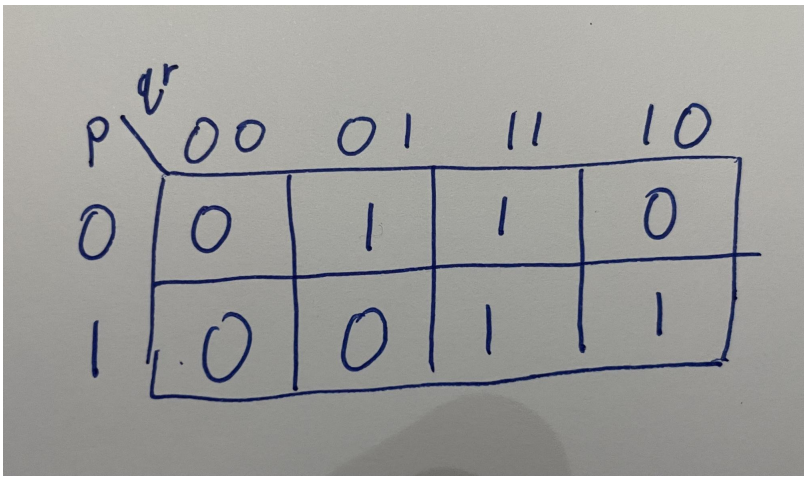
HW1 Problem 4 part b

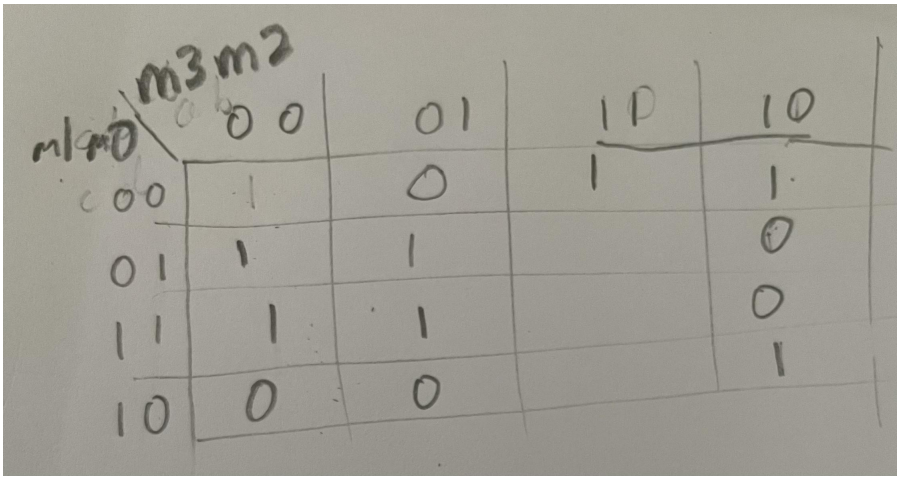


HW1 Problem 7

(a)

Month	m3	m2	m1	m0	output
1	0	0	0	1	1
2	0	0	1	0	0
3	0	0	1	1	1
4	0	1	0	0	0
5	0	1	0	1	1
6	0	1	1	0	0
7	0	1	1	1	1
8	1	0	0	0	1
9	1	0	0	1	0
10	1	0	1	0	1
11	1	0	1	1	0
12	1	1	0	0	1

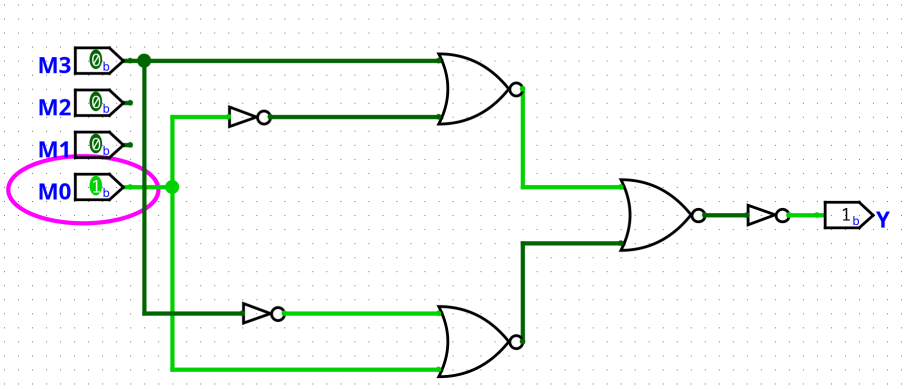
(b)



Therefore the equation is:

$$\boxed{m_0.\overline{m_3} + \overline{m_0}.m3}$$

(c)



HW 2 Problem 1

There would be a static 0 hazard between $b = 1$, $c = 1$ $a = 0$ and $b = 1$, $c = 1$ $a = 1$. We can fix it with the following circuit We can fix this by adding an And gate between b and c before the nor, so the resulting function would look like this