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11/13/19

Lab #10

M. <u>Input</u>	Q_0 <u>Present State</u>	Q_1 <u>State</u>	J	K	<u>Next State</u>	J^0	K^0
0	0	0	0	X	11	0	X
0	0	1	X	1	00	X	X
0	1	0	1	X	01	X	X
0	1	1	X	0	10	X	0
1	0	0			01	0	X
1	0	1			11	1	X
1	1	0			00	X	1
1	1	1			10	X	0

M	Q_2	Q_1	Q_0^+	Q_1^+	J, K	J^0, K^0
0	0	0	1	1	1, X	1, X
0	0	1	0	0	X, 1	0, X
0	1	0	1	1	1, X	X, 1
0	1	1	0	0	X, 1	X, 0
1	0	0	0	1	1, X	0, X
1	0	1	1	0	X, 0	1, X
1	1	0	0	1	0, X	X, 1
1	1	1	1	0	X, 1	X, 0

From Espresso:

$$J_1 = \overline{M} \overline{Q_1} + \overline{Q_0}$$

$$K_1 = Q_0 + \overline{M}$$

$$J_0 = \overline{M} \overline{Q_1} + M Q_1$$

$$K_0 = \overline{Q_1}$$

$$J_1 = \overline{M} \overline{Q_1} = \overline{M + Q_1}$$

M	Q ₀ Q ₁	00	01	11	10
0	0	1	1	1	1
1	1	1	1	x	0

$$J_1 = \overline{M} \overline{Q_1}$$

$$\overline{Q_0} \overline{Q_1}$$

$$= \overline{M}$$

M	Q ₀ Q ₁	00	01	11	10
0	0	1	1	1	1
1	1	1	1	x	0

$$\overline{M} + \overline{Q_0}$$

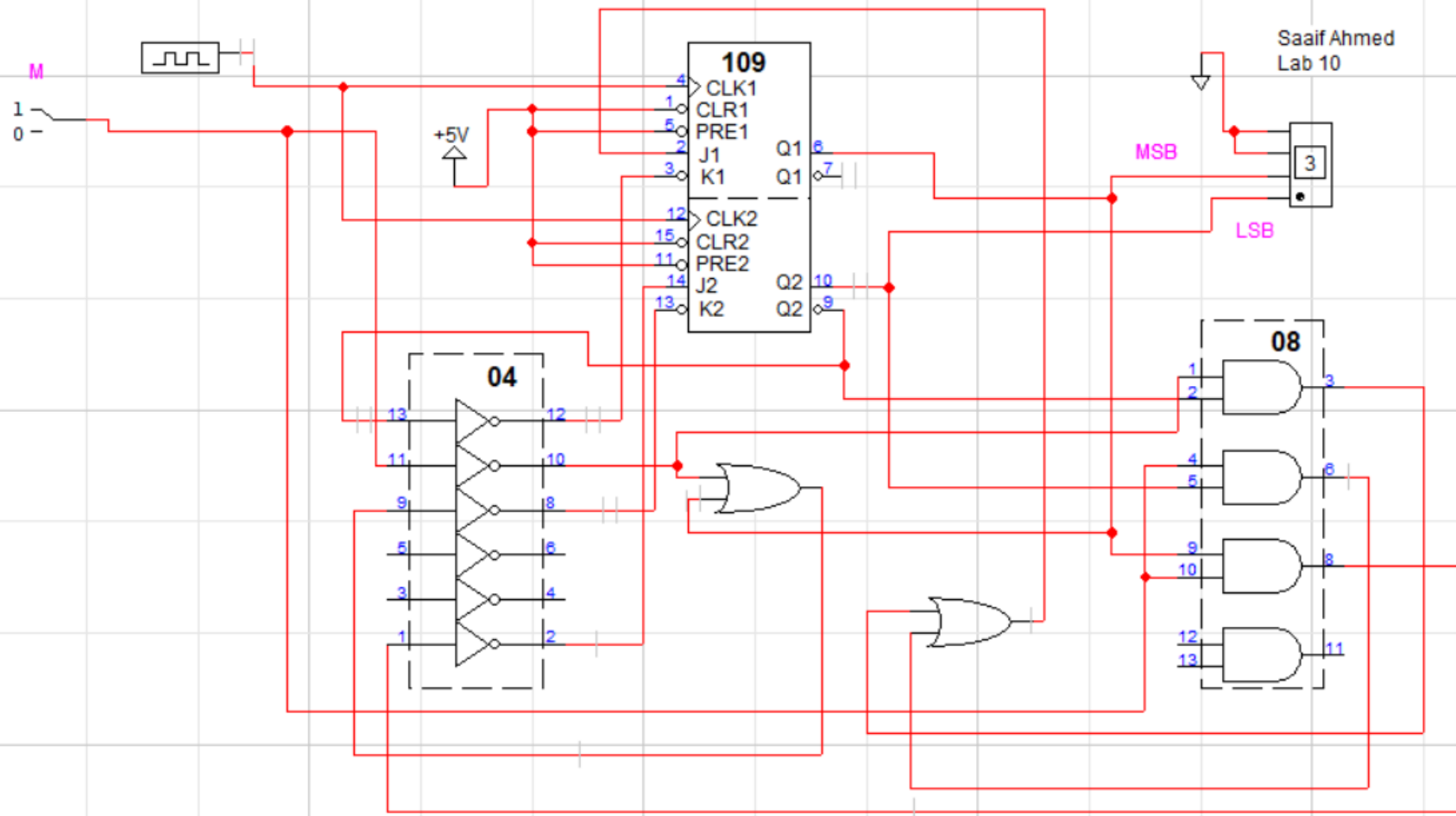
Final expressions:

$$J_1: \overline{M} + \overline{Q_0}$$

$$K_1 = Q_0 + \overline{M}$$

$$J_0 = \overline{M} \overline{Q_1} + M Q_1$$

$$K_0 = \overline{Q_1}$$



ns

200

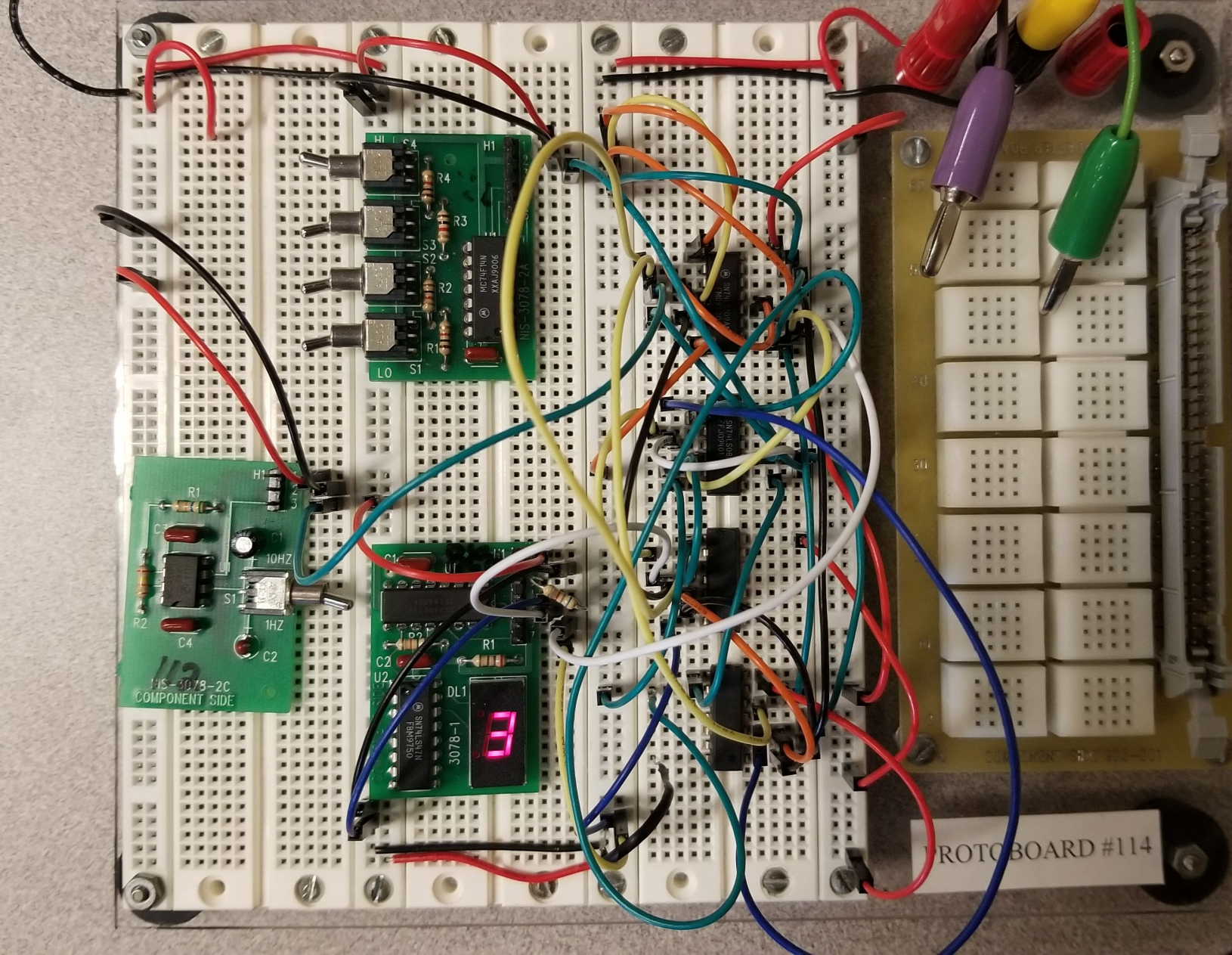
400

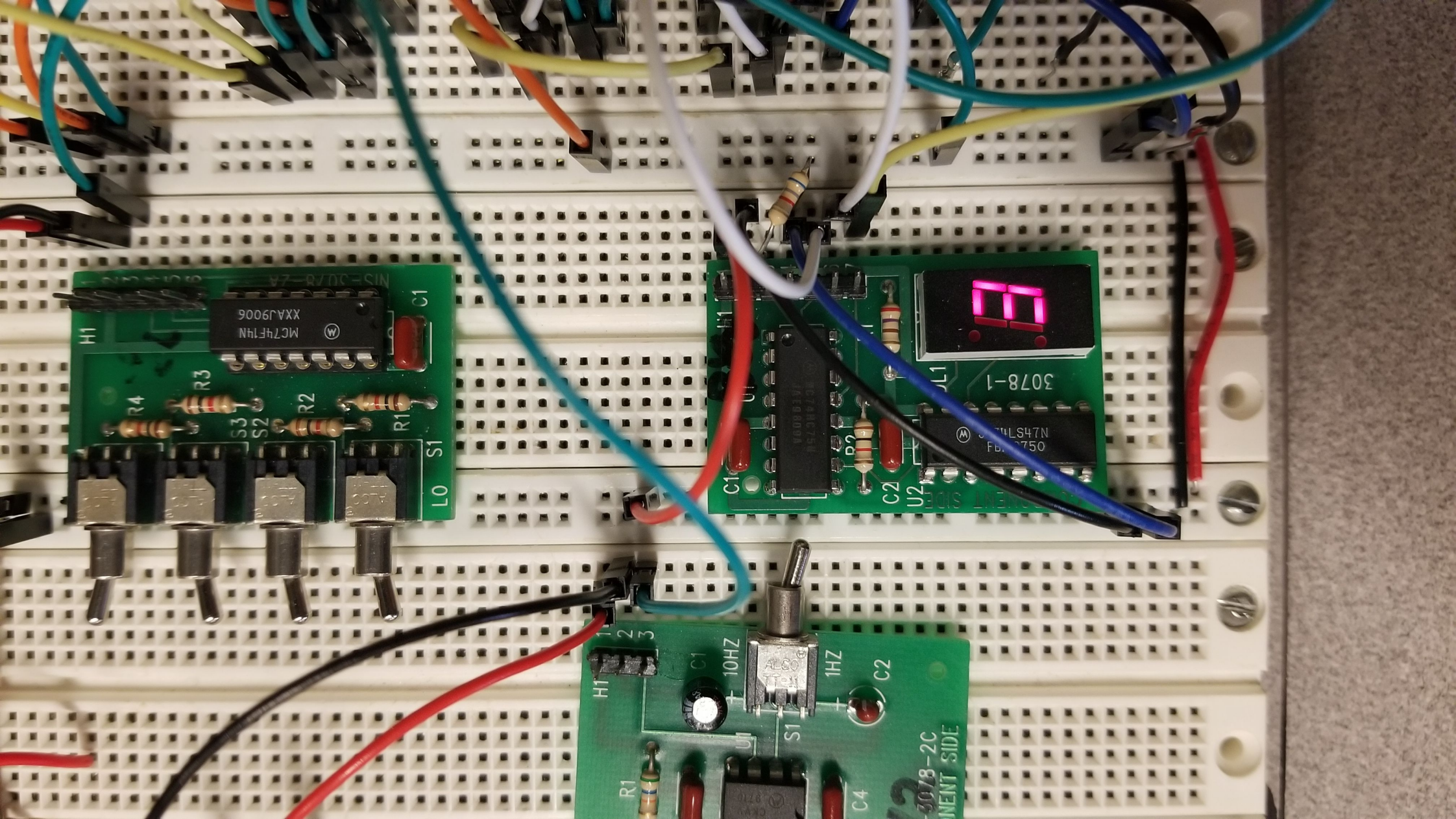
600

800

1000

MSB
LSB





#Lab 10 Input

.i 3

..

.o 4

000 1-1-

001 -10-

010 1--1

011 -1-0

100 1-0-

101 -01-

110 0--1

111 -1-0

#Lab 10 Output

.i 3
..

.o 4

.p 6

1-1 0010

0-0 1010

-0- 1000

-1- 0100

--0 0001

0-- 0100

.e