

**F.1 Experimental Data: Implementing a Boolean function using a 4:1 MUX:**

A	B	C	F (Theoretical)	Data Inputs	F (Practical)
0	0	0	1	$I_0 = 1$	1
0	0	1	1		1
0	1	0	0	$I_1 = 0$	0
0	1	1	0		0
1	0	0	0	$I_2 = C$	0
1	0	1	1		1
1	1	0	0	$I_3 = C$	0
1	1	1	1		1

**Table F.1.1****F.2 Experimental Data: Using an 8:1 MUX to implement a Boolean function:**

A	B	C	D	F (Theoretical)	Data Inputs	F (Practical)
0	0	0	0	1	$I_0 = 1$	1
0	0	0	1	1		1
0	0	1	0	0	$I_1 = D$	0
0	0	1	1	1		1
0	1	0	0	0	$I_2 = D$	0
0	1	0	1	1		1
0	1	1	0	0	$I_3 = 0$	0
0	1	1	1	0		0
1	0	0	0	1	$I_4 = 1$	1
1	0	0	1	1		1
1	0	1	0	0	$I_5 = 0$	0
1	0	1	1	0		0
1	1	0	0	0	$I_6 = 0$	0
1	1	0	1	0		0
1	1	1	0	1	$I_7 = 1$	1
1	1	1	1	1		1

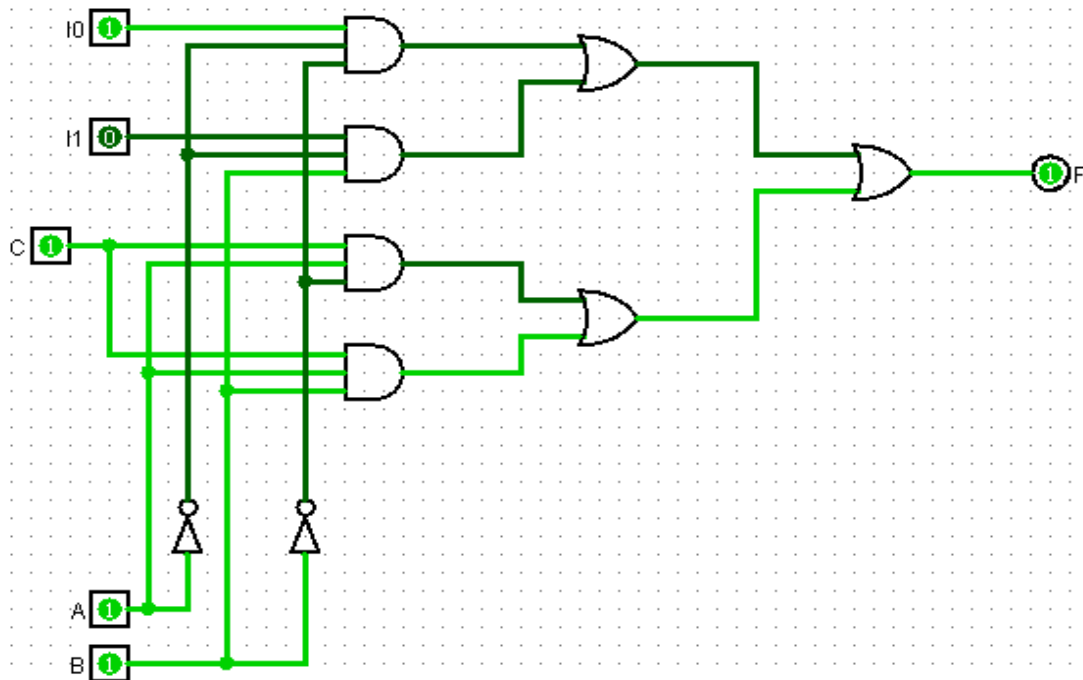
**Table F.2.1**

**F.3 Experimental Data: 3 to 8 Line Decoder:**

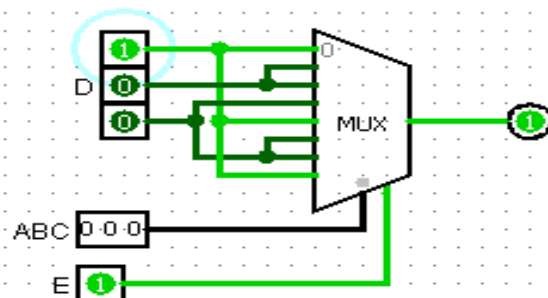
Enable Inputs		Select Inputs			Outputs							
G1	G2	C	B	A	Y <sub>0</sub>	Y <sub>1</sub>	Y <sub>2</sub>	Y <sub>3</sub>	Y <sub>4</sub>	Y <sub>5</sub>	Y <sub>6</sub>	Y <sub>7</sub>
X	H	X	X	X	H	H	H	H	H	H	H	H
L	X	X	X	X	H	H	H	H	H	H	H	H
H	L	L	L	L	L	H	H	H	H	H	H	H
H	L	L	L	H	H	L	H	H	H	H	H	H
H	L	L	H	L	H	H	L	H	H	H	H	H
H	L	L	H	H	H	H	H	L	H	H	H	H
H	L	H	L	L	H	H	H	H	L	H	H	H
H	L	H	L	H	H	H	H	H	H	L	H	H
H	L	H	H	L	H	H	H	H	H	H	L	H
H	L	H	H	H	H	H	H	H	H	H	H	L

**Table F.3.1**

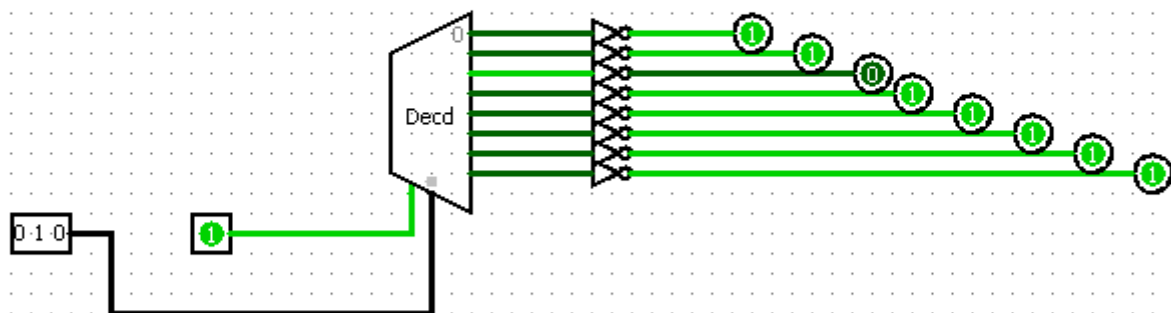
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**4:1 MUX**

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**8:1 MUX**

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**3 to 8 Line Decoder**