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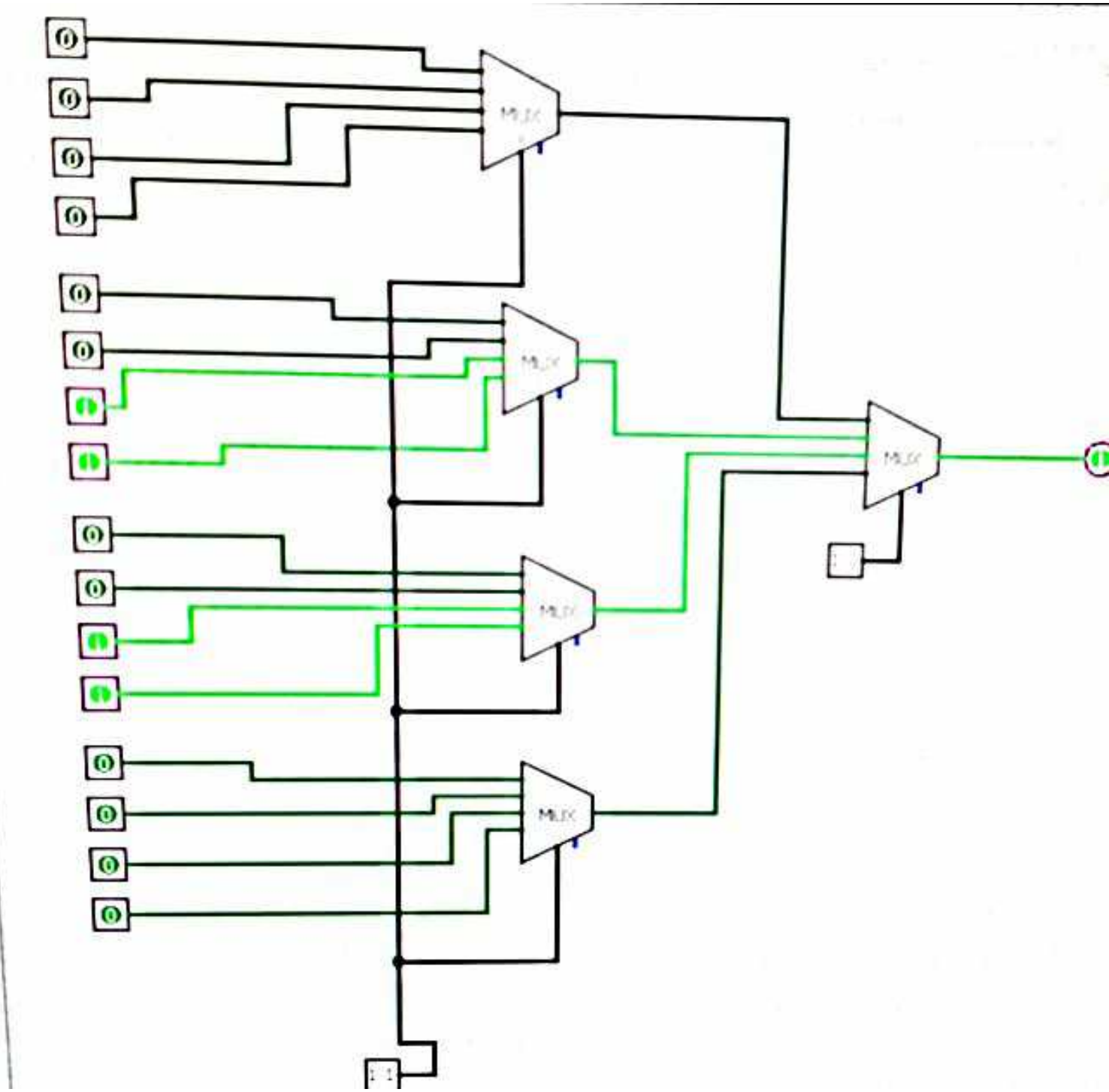
19BCE2074

Experimental Scenario

Design 16 to 1 MUX system schematic.

S_3	S_2	S_1	S_0	Y
0	0	0	0	I_0
0	0	0	1	I_1
0	0	1	0	I_2
0	0	1	1	I_3
0	1	0	0	I_4
0	1	0	1	I_5
0	1	1	0	I_6
0	1	1	1	I_7
1	0	0	0	I_8
1	0	0	1	I_9
1	0	1	0	I_{10}
1	0	1	1	I_{11}
1	1	0	0	I_{12}
1	1	0	1	I_{13}
1	1	1	0	I_{14}
1	1	1	1	I_{15}

$$Y = I_0 \bar{S}_2 \bar{S}_1 \bar{S}_3 \bar{S}_0 + I_1 \bar{S}_3 \bar{S}_2 \bar{S}_1 S_0 + I_2 \bar{S}_3 \bar{S}_2 S_1 \bar{S}_0 + I_3 \bar{S}_3 \bar{S}_2 S_1 S_0 + I_4 \bar{S}_3 S_2 \bar{S}_1 \bar{S}_0 + I_5 \bar{S}_3 S_2 \bar{S}_1 S_0 + I_6 \bar{S}_3 S_2 S_1 \bar{S}_0 + I_7 \bar{S}_3 S_2 S_1 S_0 + I_8 S_3 \bar{S}_2 \bar{S}_1 \bar{S}_0 + I_9 S_3 \bar{S}_2 \bar{S}_1 S_0 + I_{10} S_3 \bar{S}_2 S_1 \bar{S}_0 + I_{11} S_3 \bar{S}_2 S_1 S_0 + I_{12} S_3 S_2 \bar{S}_1 \bar{S}_0 + I_{13} S_3 S_2 \bar{S}_1 S_0 + I_{14} S_3 S_2 S_1 \bar{S}_0 + I_{15} S_3 S_2 S_1 S_0$$



Experimental Scenario.

Input	S_2	S_1	S_0	Y_7	Y_6	Y_5	Y_4	Y_3	Y_2	Y_1	Y_0
D	0	0	0	0	0	0	0	0	0	0	D
D	0	0	1	0	0	0	0	0	0	D	0
D	0	1	0	0	0	0	0	0	D	0	0
D	0	1	1	0	0	0	0	D	0	0	0
D	1	0	0	0	0	0	D	0	0	0	0
D	1	0	1	0	0	D	0	0	0	0	0
D	1	1	0	0	D	0	0	0	0	0	0
D	1	1	1	D	0	0	0	0	0	0	0

Output

Boolean Equation

$$D_0 = \bar{S}_2 \bar{S}_1 \bar{S}_0$$

$$D_1 = \bar{S}_2 \bar{S}_1 S_0$$

$$D_2 = \bar{S}_2 S_1 \bar{S}_0$$

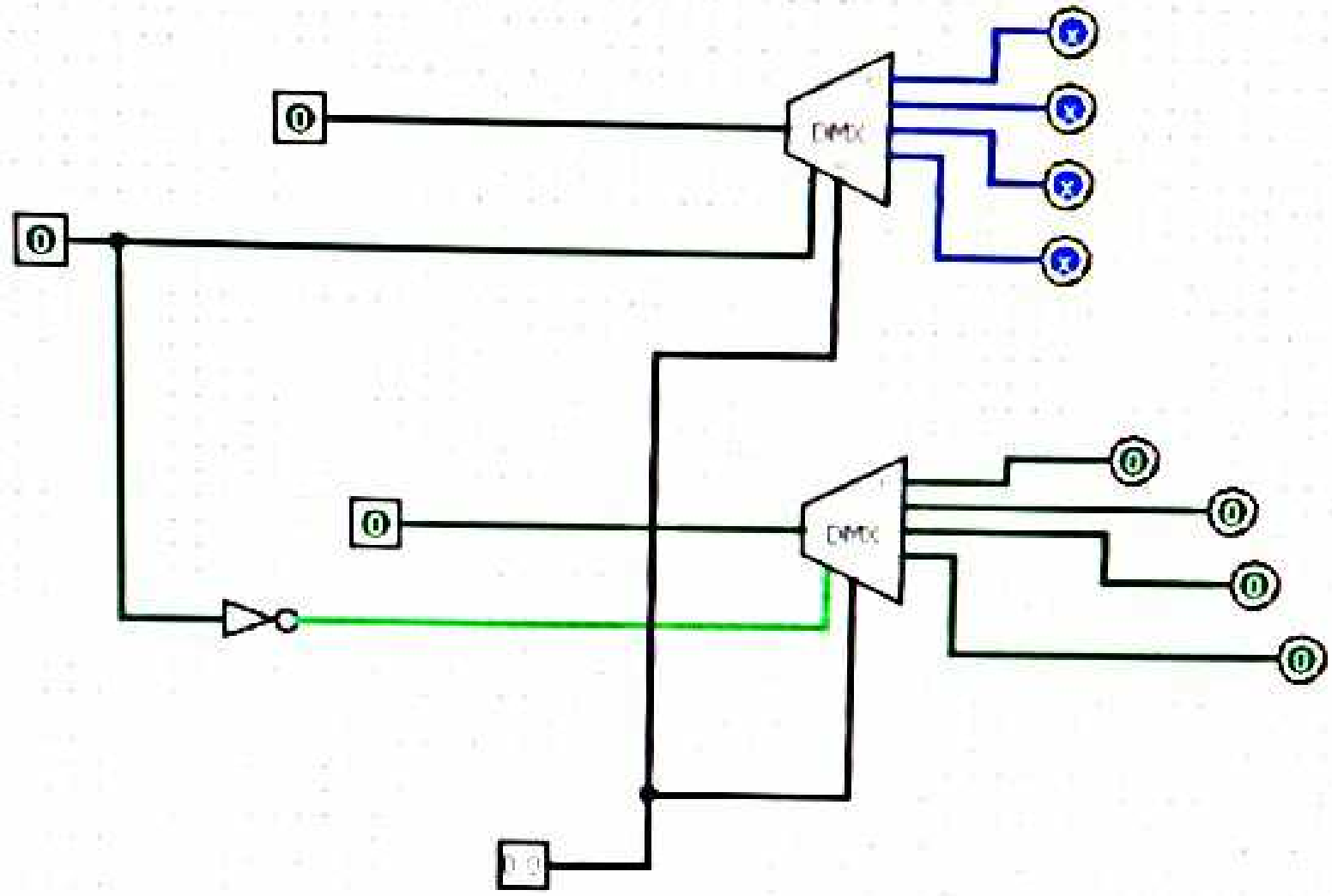
$$D_3 = \bar{S}_2 S_1 S_0$$

$$D_4 = S_2 \bar{S}_1 \bar{S}_0$$

$$D_5 = S_2 \bar{S}_1 S_0$$

$$D_6 = S_2 S_1 \bar{S}_0$$

$$D_7 = S_2 S_1 S_0$$


DMUX
DMUX