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Program-13

Objective: To implement 4X2 encoder and 8X3 encoder

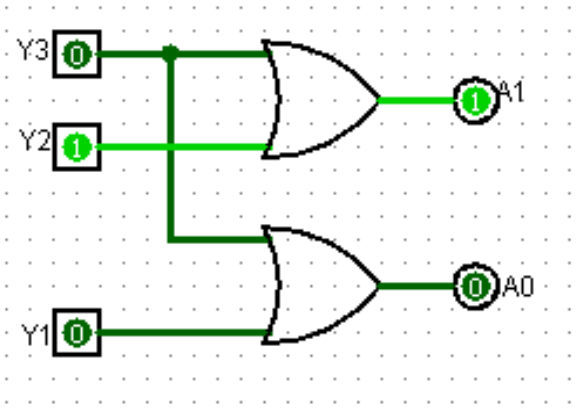
Theory:

The combinational circuits that change the binary information into N output lines are known as Encoders. The binary information is passed in the form of 2^N input lines. The output lines define the N-bit code for the binary information. In simple words, the Encoder performs the reverse operation of the Decoder.

4X2 Encoder

Truth Table

INPUTS				OUTPUTS	
Y_3	Y_2	Y_1	Y_0	A_1	A_0
1	0	0	0	0	0
0	1	0	0	0	1
0	0	1	0	1	0
0	0	0	1	1	1



Expression

$A_1 = Y_3 + Y_2$

$A_0 = Y_3 + Y_1$

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8X3 Encoder

Truth Table

Y7	Y6	Y5	Y4	Y3	Y2	Y1	Y0	A2	A1	A0
0	0	0	0	0	0	0	1	0	0	0
0	0	0	0	0	0	1	0	0	0	1
0	0	0	0	0	1	0	0	0	1	0
0	0	0	0	1	0	0	0	0	1	1
0	0	0	1	0	0	0	0	1	0	0
0	0	1	0	0	0	0	0	1	0	1
0	1	0	0	0	0	0	0	1	1	0
1	0	0	0	0	0	0	0	1	1	1