

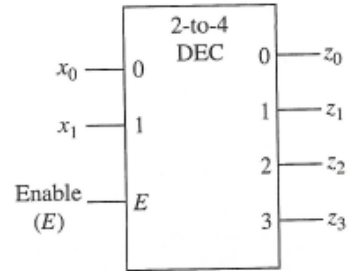
Decoders, Encoders and Multiplexers

ENEE 244-010x

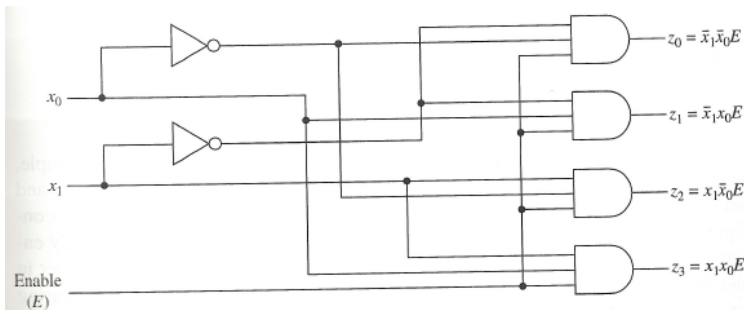
Decoder with Enable Input

Inputs			Outputs			
E	x_1	x_0	z_0	z_1	z_2	z_3
0	x	x	0	0	0	0
1	0	0	1	0	0	0
1	0	1	0	1	0	0
1	1	0	0	0	1	0
1	1	1	0	0	0	1

Truth Table



Symbol



Logic Diagram

Encoder

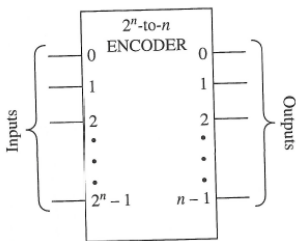


Figure 5.30 A 2^n -to- n -line encoder symbol.

x_0	x_1	x_2	x_3	x_4	x_5	x_6	x_7	z_0	z_1	z_2
0	0	0	0	0	0	0	1	1	1	1
0	0	0	0	0	0	0	1	0	1	1
0	0	0	0	0	1	0	0	1	0	1
0	0	0	0	1	0	0	0	0	1	1
0	0	1	0	0	0	0	0	0	1	0
0	1	0	0	0	0	0	0	0	0	1
1	0	0	0	0	0	0	0	0	0	0

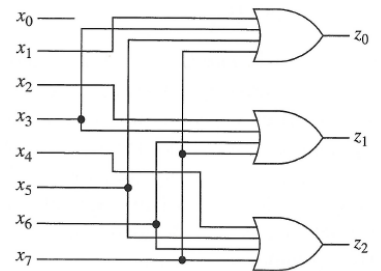


Figure 5.31 An 8-to-3-line encoder.

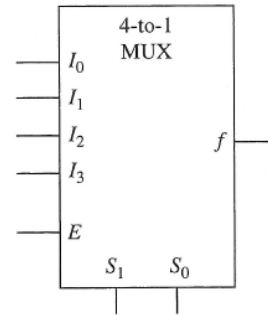
Decoders, Encoders and Multiplexers

EENE 244-010x

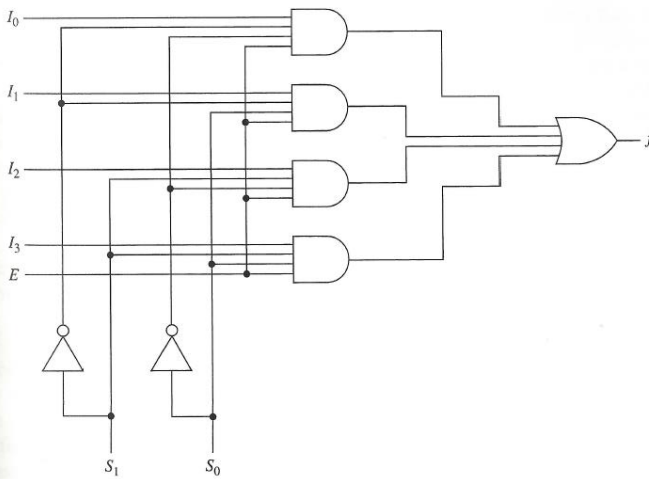
Multiplexer

E	S_1	S_0	I_0	I_1	I_2	I_3	f
0	x	x	x	x	x	x	0
1	0	0	0	x	x	x	0
1	0	0	1	x	x	x	1
1	0	1	x	0	x	x	0
1	0	1	x	1	x	x	1
1	1	0	x	x	0	x	0
1	1	0	x	x	1	x	1
1	1	1	x	x	x	0	0
1	1	1	x	x	x	1	1

Truth Table



Symbol



Logic Diagram