

A decoder selects one minterm from the 2^n possible options. A decoder is specified as a $n - to - 2^n$ decoder. Examples include a 2-to-4 decoder, a 3-to-8 decoder, and a 4-to-16 decoder. Other combinations are possible.

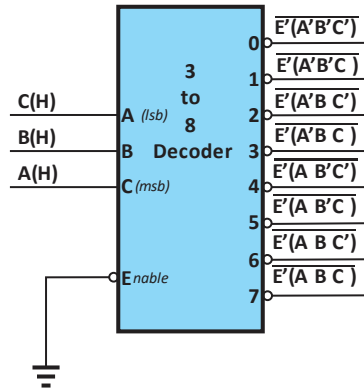


Figure 3.23 (b) 3-to-8 Decoder

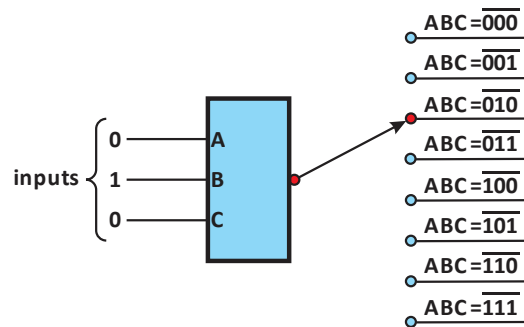


Figure 3.23.1 Switching model for a 3-to-8 Decoder

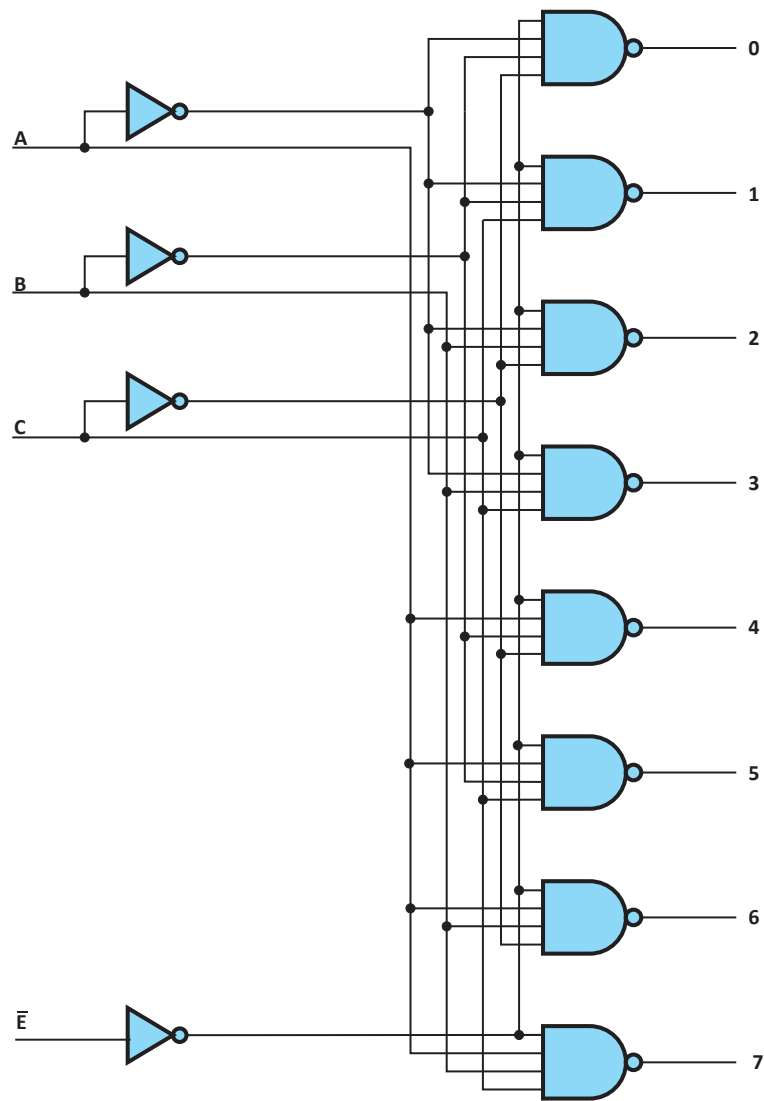


Figure 3.23 (a) Logic Diagram for a 3-to-8 Decoder

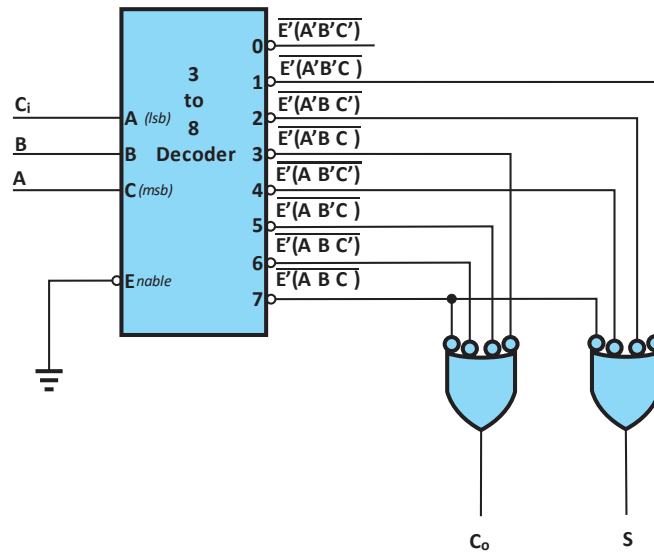


FIGURE 3.23.2 Applications of a Decoder
Using a 3-to-8 Decoder to implement a Full Adder