

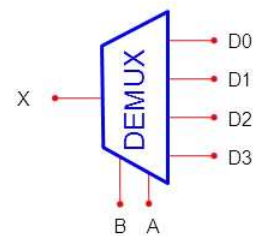
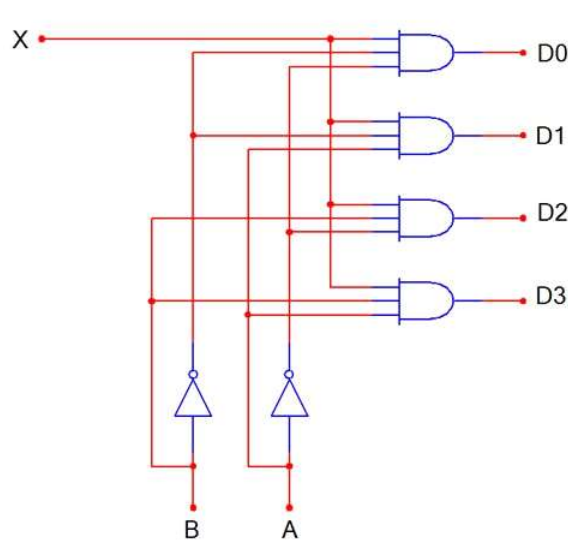
# Demultiplexer

The demultiplexer takes one single input data line and then switches it to any one of a number of individual output lines one at a time. The demultiplexer converts a serial data signal at the input to a parallel data at its output lines.

The Boolean expression for a 1-to-4 Demultiplexer with outputs A to D and data select lines a, b is given as:

$$F = abA + abB + abC + abD$$

## 1-to-4 De-Multiplexer (DEMUX)



B	A	D0	D1	D2	D3
0	0	X	0	0	0
0	1	0	X	0	0
1	0	0	0	X	0
1	1	0	0	0	X



SAME WOULD APPLY FOR 1-8 and 1-16, JUST CHANGE THE NUMERALS AND YOU ARE GOOD TO GO.