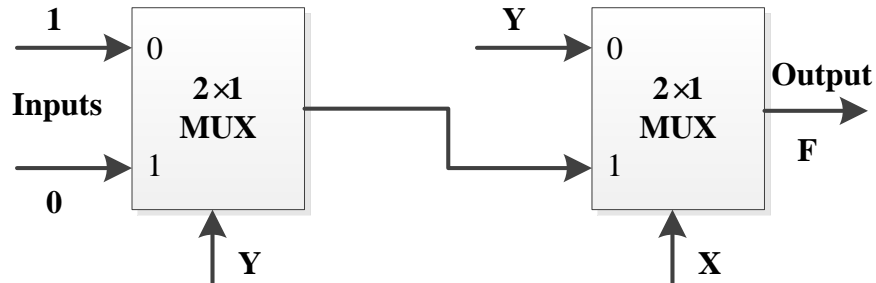


1. Quiz for Chapter 3&5

- 1) PLA consists of programmable AND arrays and programmable OR arrays.

B

- 2) Please find the logic expression of output F in the figure.



Answer:  $F = X'Y + XY' = X \oplus Y$

- 3) The signed-magnitude of 8-bit binary number  $(-32)_{10}$  is 10100000; its 1s complement is 11011111; its 2s complement is 11100000.

- 4) Perform the arithmetic operation  $(-35) - (-24)$  in 7-bit binary using signed-complement arithmetic.

Answer:

-35 = 1011101  
-24 = 1101000

$$\begin{array}{r}
 -35 \\
 - \underline{(-24)} \\
 = -11
 \end{array}
 \quad
 \begin{array}{r}
 + \\
 =
 \end{array}
 \begin{array}{r}
 1011101 \\
 \underline{0011000} \\
 1110101
 \end{array}$$