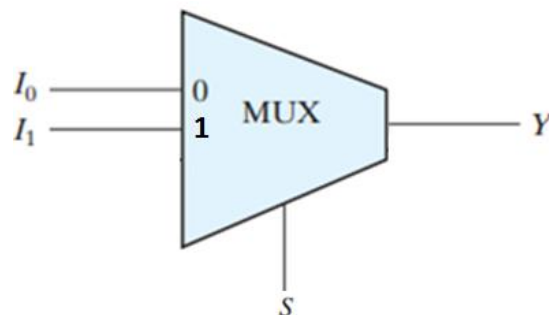


## Combinational Circuit Synthesis

Y-0016/001D, Y-0016/002D and Y-0016/009D boards (given in the last page)

- 1) Fill in the truth table for a 2-input-multiplexer shown below. Then using the truth table, design an equivalent circuit using necessary logic gates and verify your design using **Y-0016/002D** board. Draw the equivalent circuit, and implement it to verify your design.



- 2) Fill the truth table for the given boolean function F and implement the function using **8:1 MUX**.

$$F(A, B, C) = \sum(1, 2, 3, 5, 7)$$

Draw and implement the equivalent circuit using **Y-0016/009D** board.

- 3) Implement the following Boolean Function F using **8:1 MUX**.

$$F(A, B, C, D) = \sum(0, 2, 3, 5, 8, 10, 11, 13)$$

Draw and implement the equivalent circuit using **Y-0016/009D** board.

