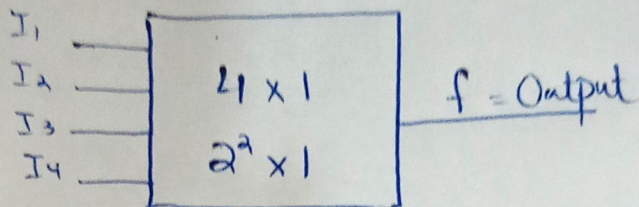
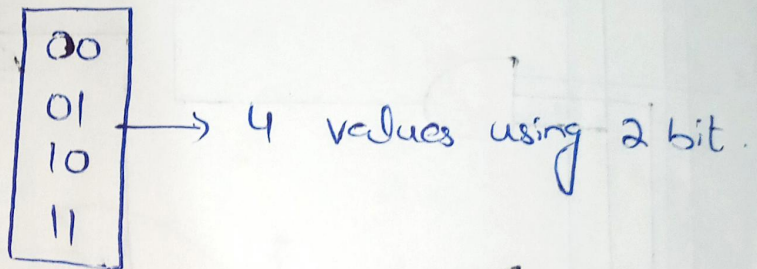


→ Multiplexer:-

$2^n \rightarrow$ Input
 $1 \rightarrow$ Output

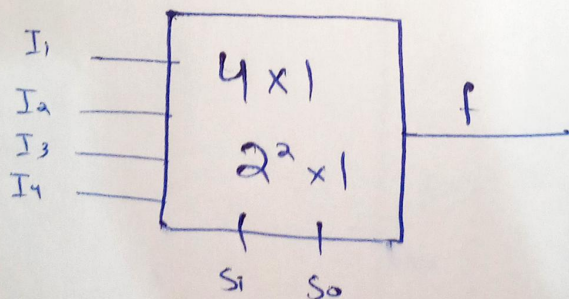


4 ko represent krnay k Jiye 2 bit use krnay hai
for example s-



No. of selected lines = 2

$$2^2 = 4$$



S_1	S_0
0	$0 \rightarrow I_1$
0	$1 \rightarrow I_2$
1	$0 \rightarrow I_3$
1	$1 \rightarrow I_4$

S_1, S_0 are the selected lines.

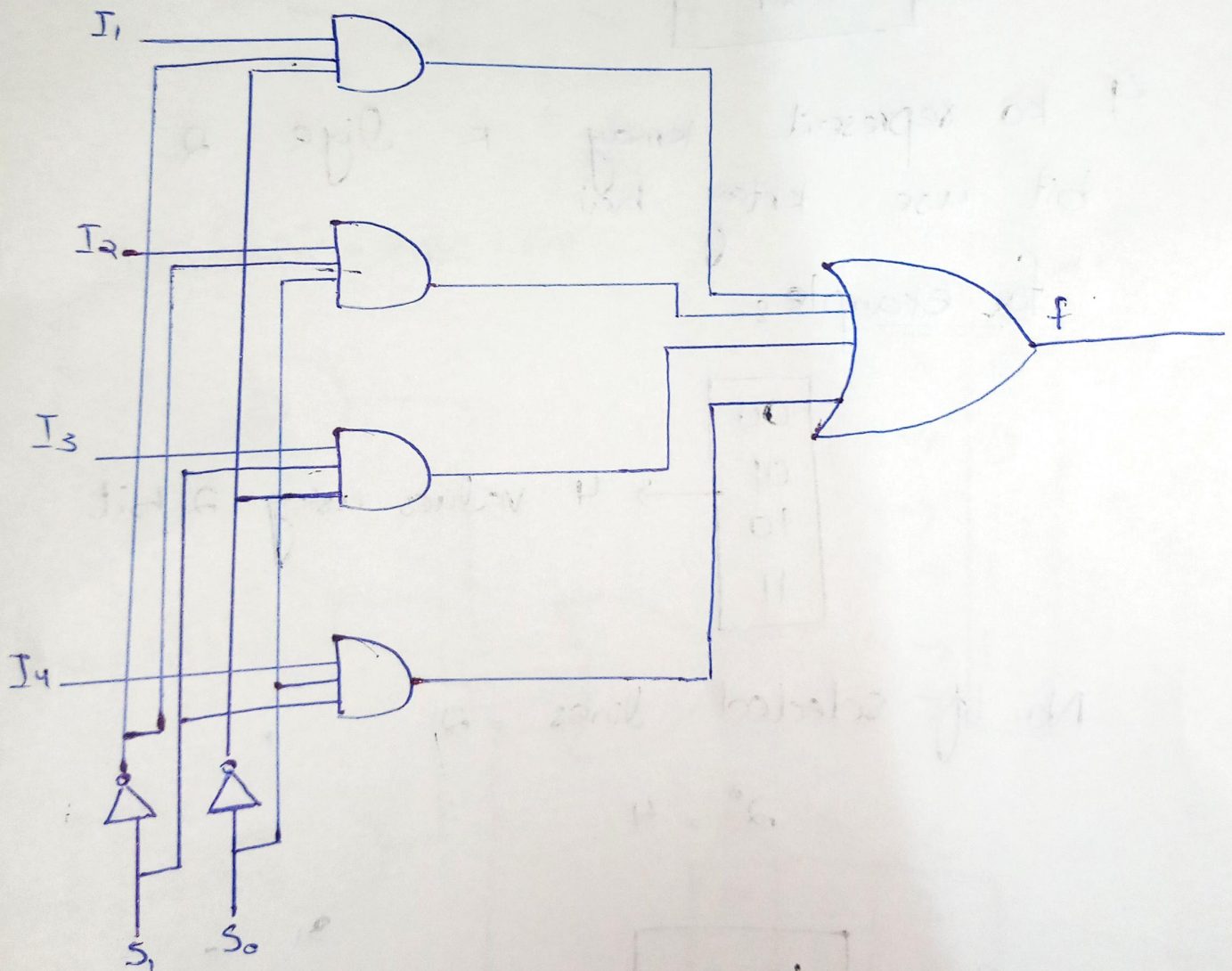
$$0 = \bar{x}$$

$$1 = x$$

$$\bar{S}_1 \bar{S}_0 I_1 + \bar{S}_1 S_0 I_2 + S_1 \bar{S}_0 I_3 + S_1 S_0 I_4$$

Input is 4 = $I_1 I_2 I_3 I_4$

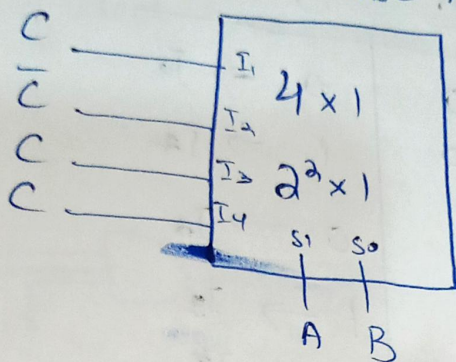
No. of select lines is 2 = $S_1 S_0$



→ Implementing Function Using Multiplexer:-

• $f(A, B, C) = \Sigma(1, 2, 5, 7)$ ~~→ minterm~~

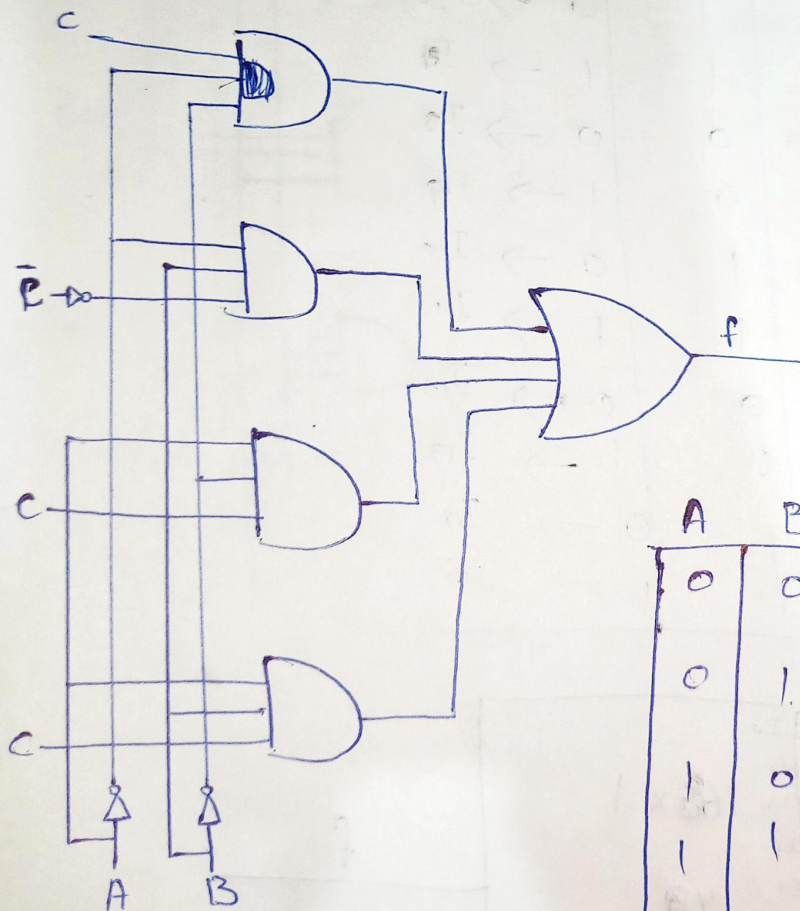
\downarrow \downarrow \downarrow \downarrow
 001 010 101 111
 $\overline{A}BC$ $A\overline{B}C$ $\overline{A}B\overline{C}$ ABC



$\overline{A} = 0$
 $A = 1$

$\overline{A}BC + A\overline{B}C + \overline{A}B\overline{C} + ABC$

	A	B	C
0 →	0	0	0
1 →	0	0	1
2 →	0	1	0
3 →	0	1	1
4 →	1	0	0
5 →	1	0	1
6 →	1	1	0
7 →	1	1	1



A	B	C
0	0	I_1
0	1	I_2
1	0	I_3
1	1	I_4