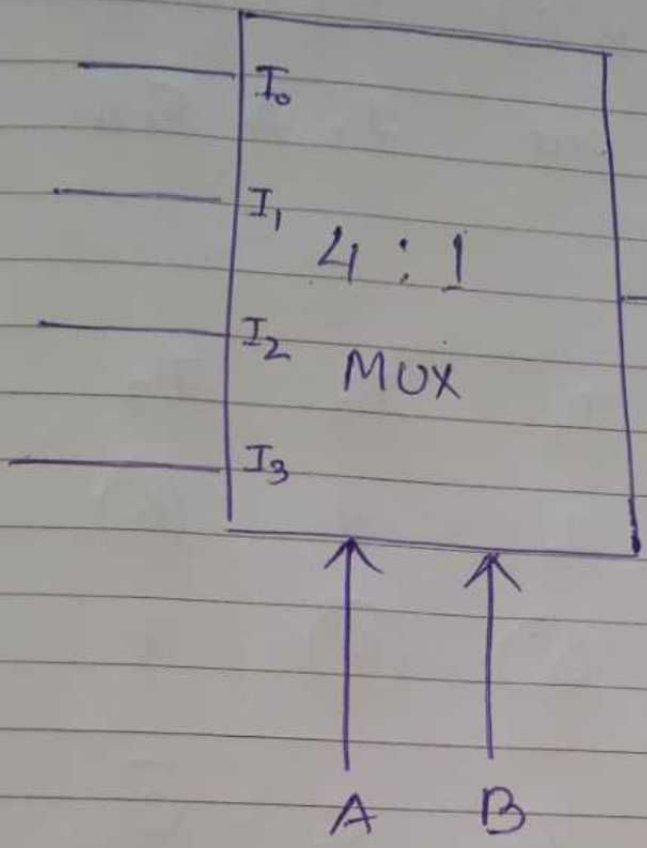
8. Implement the following fn using a MUX:-

$$F(A, B, C) = \Sigma m(1, 3, 5, 6)$$

Soln:-

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



∴ 3 ~~Inputs~~ variables given, 2 ~~should~~ ~~be~~ selection lines should be there.
2^2 i.e. 4:1 MUX

A	B	F
0	0	I_0
0	1	I_1
1	0	I_2
1	1	I_3

	I_0	I_1	I_2	I_3
$\bar{C}$	0	2	4	6
C	1	3	5	7

see where value of $C = 0$

$C = 1$

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Now see the f"

$f(A,B,C) = \Sigma(1,3,5,6)$

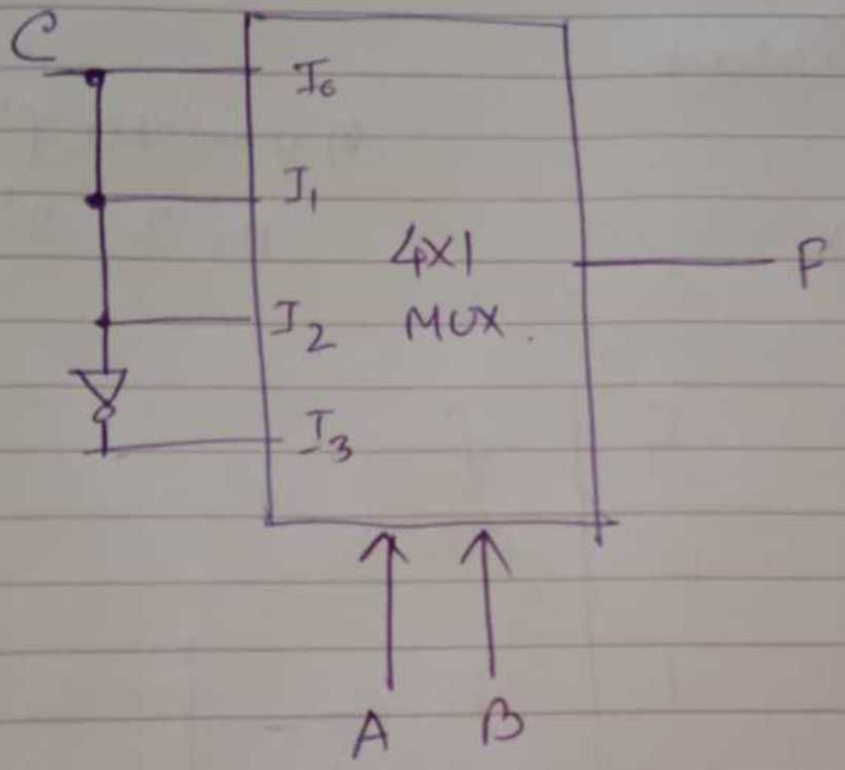
Circuit out 1, 3, 5, 6

	I_0	I_1	I_2	I_3
$\bar{O}$	0	2	4	(6)
C	(1)	(3)	(5)	7
	C	C	C	$\bar{C}$

O O - X

O - O X

1 $\bar{C}$ C O


C
I_0
I_1
4X1
MUX
F
I_2
I_3
A
B

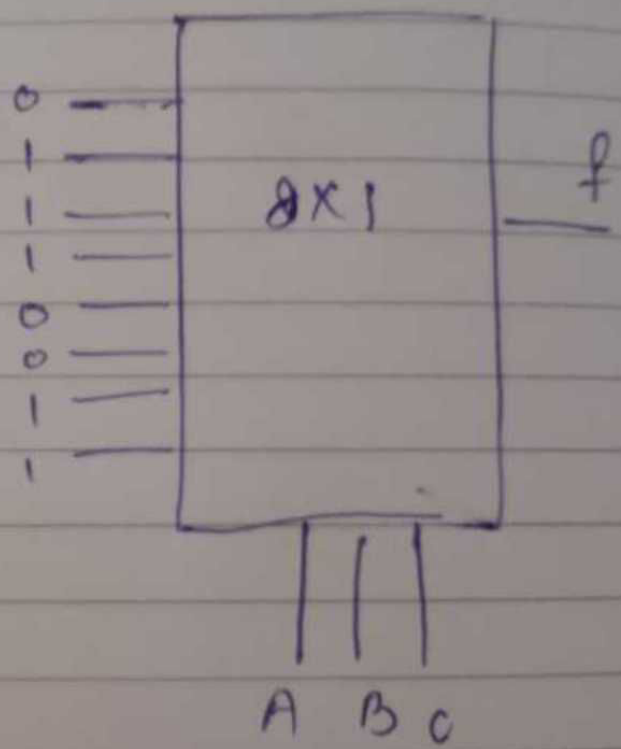
Q. Implement $f = \Sigma m(1,2,3,6,7)$ using multiplexer

If variable n then 2^n minterms

$n = 3$, $2^3 = 8 \rightarrow 0-7$

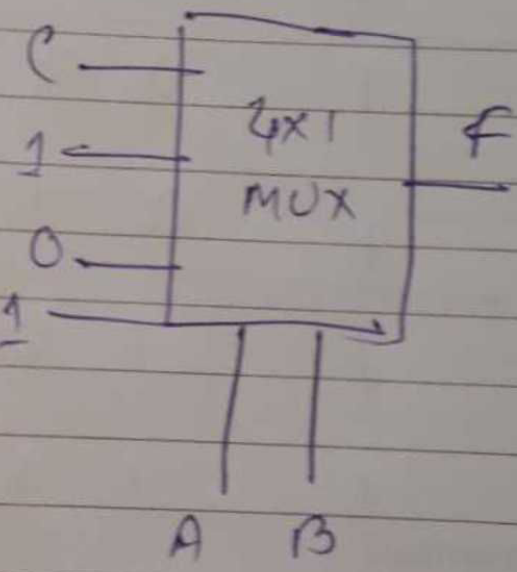
8X1 MUX

A	B	C	f
0	0	0	0
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	1
1	1	1	1



4x1 MUX

A	B	C	f	
0	0	0	0	C
0	0	1	1	
0	1	0	1	1
0	1	1	1	
1	0	0	0	0
1	0	1	0	
1	1	0	1	1
1	1	1	1	



Q1

A	B	C	f	
0	0	0	0	F = C
0	0	1	1	
0	1	0	0	F = C
0	1	1	1	
1	0	0	0	F = C
1	0	1	1	
1	1	0	1	F = $\bar{C}$
1	1	1	0