

① $A(x_1, x_2, x_3, x_4) = \sum m(3, 7, 8, 9, 11, 15)$

$B(x_1, x_2, x_3, x_4) = \sum m(3, 4, 5, 7, 10, 14, 15)$

$C(x_1, x_2, x_3, x_4) = \sum m(1, 5, 7, 11, 15)$

$x_1 x_2$	$x_3 x_4$	00	01	11	10
00	00	0	0	0	1
01	00	0	0	0	1
11	00	1	1	1	1
10	00	0	0	0	0

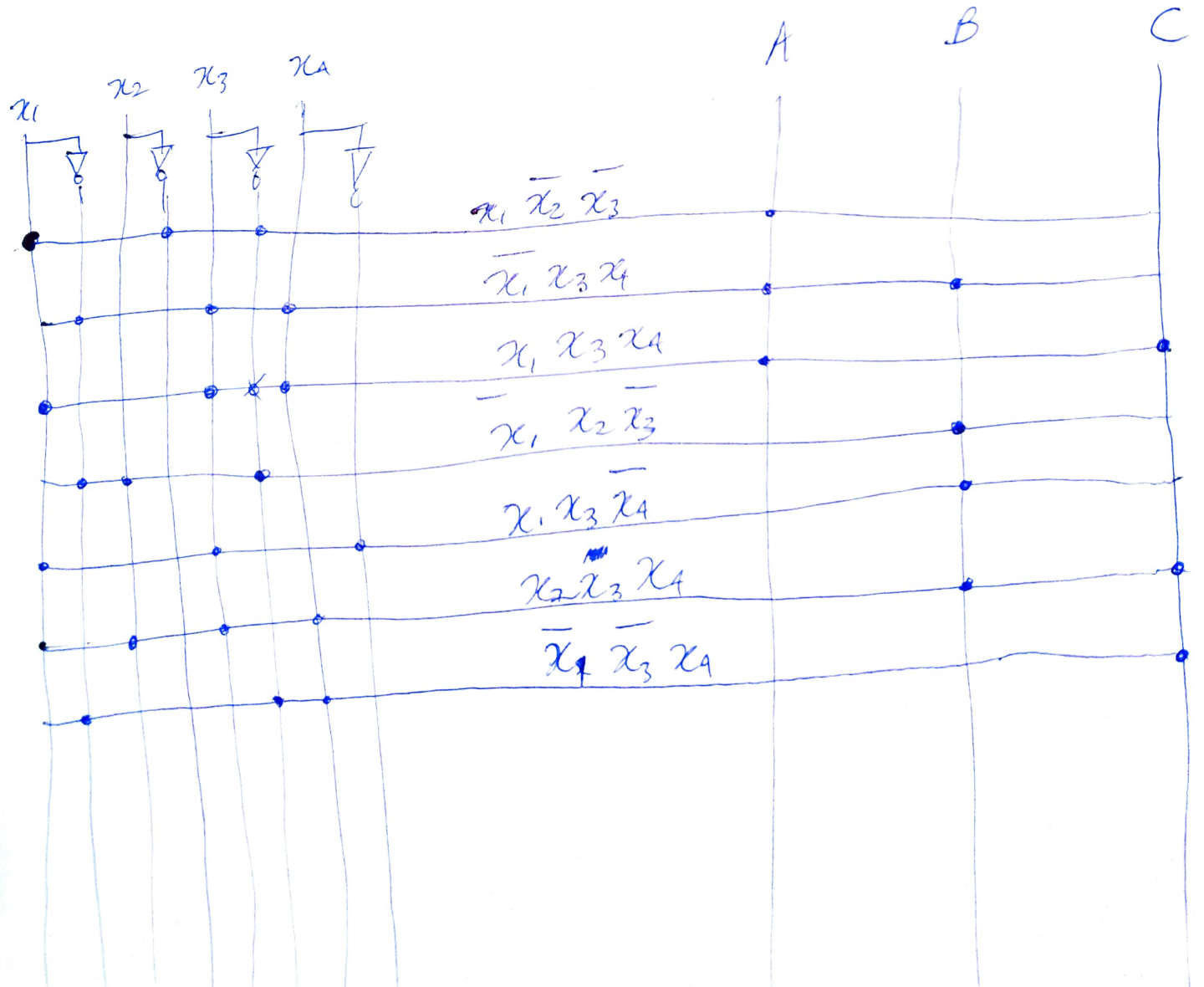
$x_1 x_2$	$x_3 x_4$	00	01	11	10
00	00	0	1	0	0
01	00	0	1	0	0
11	00	1	1	1	0
10	00	0	0	1	1

$x_1 x_2$	$x_3 x_4$	00	01	11	10
00	00	0	0	0	0
01	00	1	1	0	0
11	00	0	1	1	1
10	00	0	0	0	0

$A = x_1 \bar{x}_2 \bar{x}_3 + \bar{x}_1 x_3 x_4 + x_1 x_3 x_4$

$B = x_1 x_2 \bar{x}_3 + x_1 x_3 \bar{x}_4 + \bar{x}_1 x_3 x_4 + x_2 x_3 x_4$

$C = \bar{x}_1 \bar{x}_3 x_4 + x_1 x_3 x_4 + x_2 x_3 x_4$



(2)

SW4	SW3	SW2	SW1	Output
0	0	0	0	X
0	0	0	1	1
0	0	1	0	X
0	0	1	1	1
0	1	0	0	X
0	1	0	1	1
0	1	1	0	X
0	1	1	1	0
1	0	0	0	1
1	0	0	1	1
1	0	1	0	1
1	0	1	1	0
1	1	0	0	1
1	1	0	1	0
1	1	1	0	0
1	1	1	1	0

SW1 SW2 SW3 SW4

SW1 SW2 SW3 SW4

SW1 SW2 SW3 SW4

SW1 SW2 SW3 SW4

SW1 SW2 SW3 SW4

SW1 SW2 SW3 SW4

SW1 SW2 SW3 SW4

② ~~84 83~~
 cont.

	$\overline{SW3}$	$\overline{SW4}$	$\overline{SW3}$	$\overline{SW4}$	$\overline{SW3}$	$\overline{SW4}$	$\overline{SW3}$	$\overline{SW4}$
$\overline{SW1}$ $\overline{SW2}$	X	1	1	X				
$\overline{SW1}$ $SW2$	X	1		X				
$SW1$ $SW2$	1							
$SW1$ $\overline{SW2}$	1	1		1				

$$Y = \overline{SW1} \overline{SW2} + \overline{SW1} \overline{SW3} + \overline{SW3} \overline{SW4} + \overline{SW2} \overline{SW3} + \overline{SW2} \overline{SW4}$$