

$$M = 20190953$$

$$S = \{0, 1, 2, 3, 5, 9\}$$

$$\text{Dec} : 0 \quad \text{Bin} : 0000$$

$$\text{Dec} : 1 \quad \text{Bin} : 0001$$

$$\text{Dec} : 2 \quad \text{Bin} : 0010$$

$$\text{Dec} : 3 \quad \text{Bin} : 0011$$

$$\text{Dec} : 5 \quad \text{Bin} : 0101$$

$$\text{Dec} : 9 \quad \text{Bin} : 1001$$

Dec	Bin	A	B	C	D	E	F	G
0	0000	1	1	1	1	1	1	0
1	0001	0	1	1	0	0	0	0
2	0010	1	1	0	1	1	0	1
3	0011	1	1	1	1	0	0	1
5	0101	1	0	1	1	0	1	1
9	1001	1	1	1	1	0	1	1

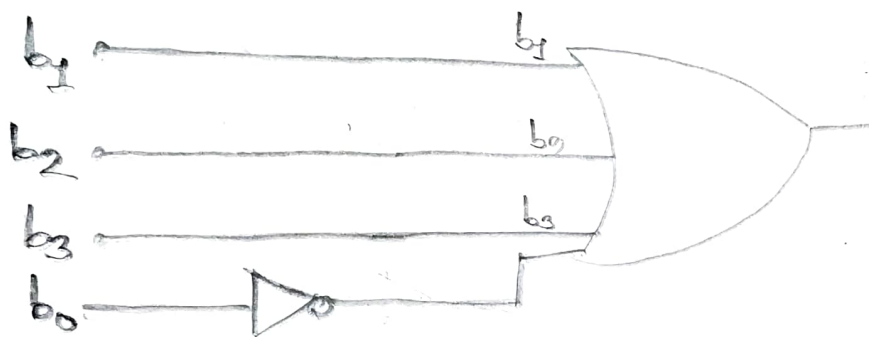
For A ;	b_3	b_2	b_1	b_0	y
0	0	0	0	0	1
1	0	0	0	1	0
2	0	0	1	0	1
3	0	0	1	1	1
4	0	1	0	0	-
5	0	1	0	1	1
6	0	1	1	0	-
7	0	1	1	1	-
8	1	0	0	0	-
9	1	0	0	1	1
10	1	0	1	0	-
11	1	0	1	1	-
12	1	1	0	0	-
13	1	1	0	1	-
14	1	1	1	0	-
15	1	1	1	1	-

$b_3 b_2$

$b_1 b_0$

	00	01	11	10
00	1 ₀	0 ₁	1 ₃	1 ₂
01	- ₄	1 ₅	- ₇	- ₆
11	- ₁₂	- ₁₃	- ₁₅	- ₁₄
10	- ₈	1 ₉	- ₁₁	- ₁₀

$$\begin{aligned}
 & b_3 + b_1 + b_2 + \overline{b_1} \overline{b_0} \\
 &= b_3 + b_2 + b_1 + \overline{b_1} \overline{b_0} \\
 &= b_3 + b_2 + b_1 + \overline{b_0}
 \end{aligned}$$



for B₉:
C, D, E, F, G

	b_3	b_2	b_1	b_0	$y(B)$	$y(C)$	$y(D)$	$y(E)$	$y(F)$	$y(G)$
0	0	0	0	0	1	1	1	1	1	0
1	0	0	0	1	1	1	0	0	0	0
2	0	0	1	0	1	0	1	1	0	1
3	0	0	1	1	1	1	1	0	0	1
4	0	1	0	0	-	-	-	-	-	-
5	0	1	0	1	0	1	1	0	1	1
6	0	1	1	0	-	-	-	-	-	-
7	0	1	1	1	-	-	-	-	-	-
8	1	0	0	0	-	-	-	-	-	-
9	1	0	0	1	1	1	1	0	1	1
10	1	0	1	0	-	-	-	-	-	-
11	1	0	1	1	-	-	-	-	-	-
12	1	1	0	0	-	-	-	-	-	-
13	1	1	0	1	-	-	-	-	-	-
14	1	1	1	0	-	-	-	-	-	-
15	1	1	1	1	-	-	-	-	-	-

②

For segment B,

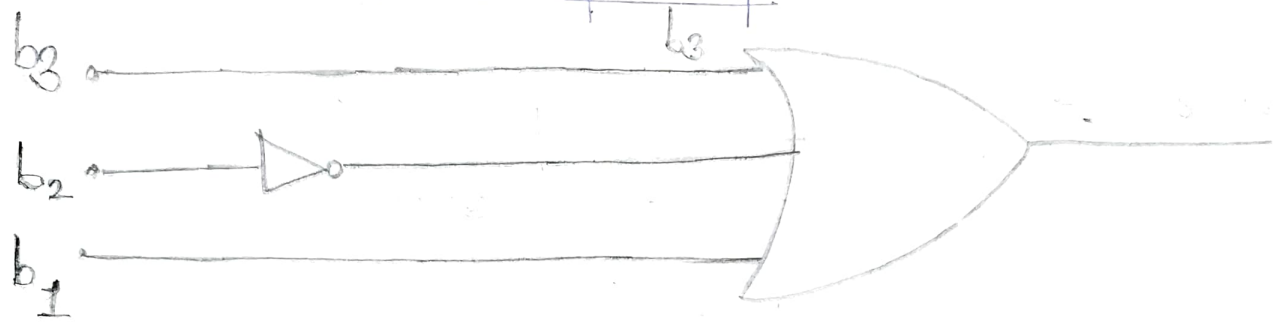
Segment B,

$b_1 b_0$

	00	01	11	10
00	1 ₀	1 ₁	1 ₂	1 ₃
01	— ₄	0 ₅	— ₇	— ₆
$b_3 b_2$ 11	— ₁₂	— ₁₃	— ₁₅	— ₁₄
10	— ₈	1 ₉	— ₁₁	— ₁₀

$$\overline{b_3} \overline{b_2} + b_1 + b_3$$

$$= b_3 + \overline{b_2} + b_1$$



C,

9

$b_3 b_2$

00

01

11

10

$b_1 b_0$

00

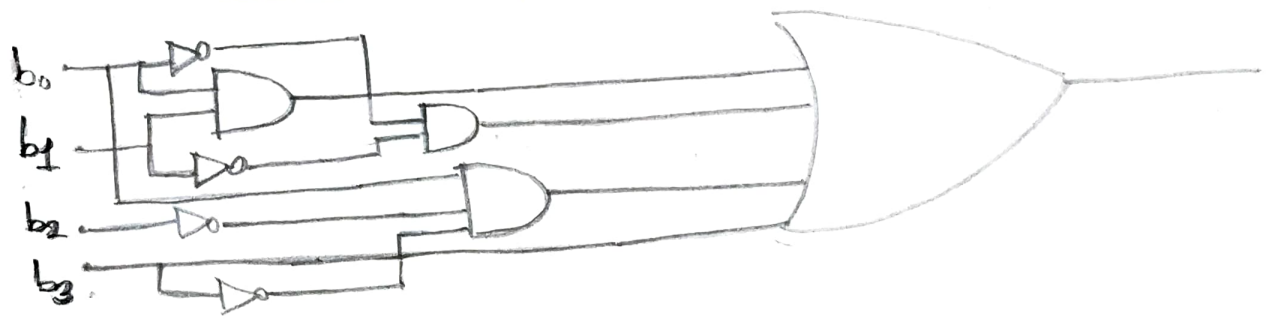
01

11

10

0	1	3	2
4	5	7	6
12	13	15	14
8	9	11	10

$$b_3 + \overline{b_1} \overline{b_0} + b_1 b_0 + \overline{b_3} \overline{b_2} b_0$$



D_7

$b_3 b_2$

		$b_1 b_0$			
		00	01	11	10
00	1	0	1	3	1
01	-	1	5	-	-
11	-	1	13	15	-
10	-	1	9	-	10

$$b_3 + b_1 + \overline{b_3} b_2 + \overline{b_3} \overline{b_2} \overline{b_0} \overline{b_1} = b_3 + b_2 + b_1 + \overline{b_0}$$



E_1

$b_3 b_2$

		$b_1 b_0$			
		00	01	11	10
00	1	0	1	3	1
01	-	0	5	-	-
11	-	1	13	15	1
10	-	0	9	11	1

$$\overline{b_1} \overline{b_0} + b_1 \overline{b_0} = \overline{b_0}$$

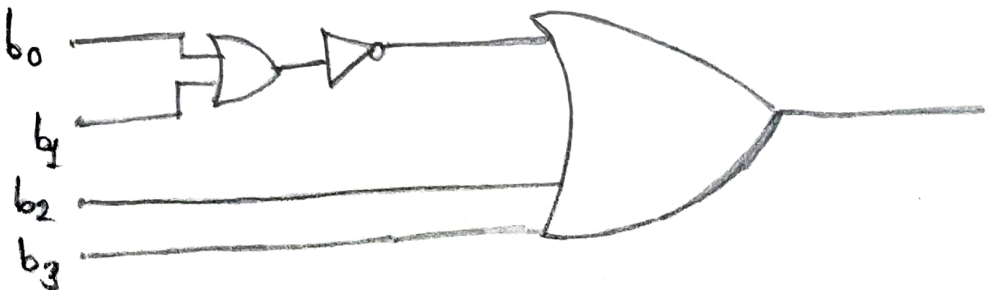


F_1

$b_3 b_2$

		$b_1 b_0$			
		00	01	11	10
00	1	0	0	0	2
01	-	1	-	-	-
11	-	-	-	-	-
10	-	1	-	-	10

$$\overline{b_1} \overline{b_0} + b_2 + b_3$$



G,

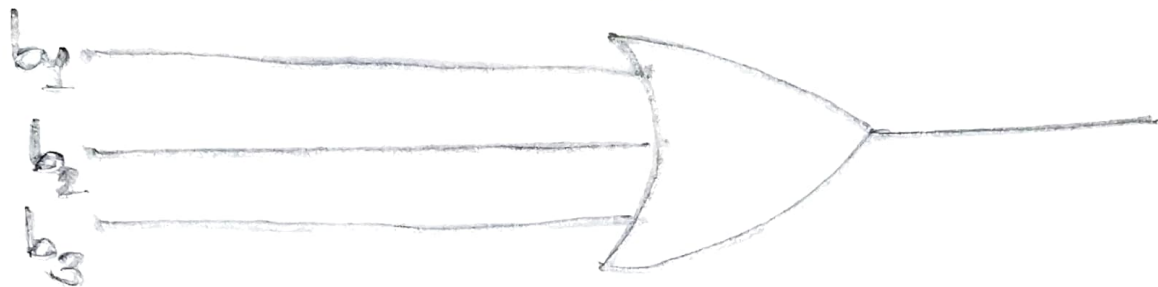
$b_3 b_2$

$b_1 b_0$

	00	01	11	10
00	0 0	0 1	1 3	1 2
01	— 4	1 5	— 7	— 6
11	— 12	— 13	— 15	— 14
10	— 8	1 9	— 11	— 10

$$b_1 + b_2 + b_3$$

③



DESIGN - 2

