

(1-1)

		$b_1, b_0$			
		00	01	11	10
$a_1, a_0$	00	1	0	0	0
	01	1	1	0	0
	11	1	1	1	1
	10	1	1	0	1

$$S = a_1 \cdot a_0 + a_1 \cdot b_0 + a_1 \cdot \bar{b}_1 + a_0 \cdot \bar{b}_1 + \bar{b}_1 \cdot \bar{b}_0$$

(1-2)

$S$		$E_1, E_0$			
		00	01	11	10
$S_1, S_0$	00	0	<del>0</del>	d	d
	01	0	0	d	d
	11	1	1	1	1
	10	1	d	d	0

d: don't care

$$S = S_1 \cdot \bar{E}_1 + S_1 \cdot S_0$$

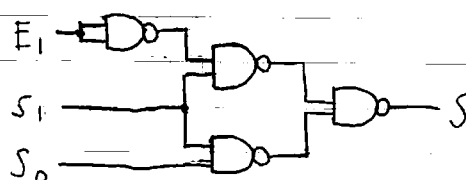
$$\text{for } S = S_1 \cdot \bar{E}_1 + S_0 \cdot E_1$$

$E$		$E, E_0$			
		00	01	11	10
$S_1, S_0$	00	0	d	d	d
	01	0	0	d	d
	11	0	0	1	0
	10	0	d	d	0

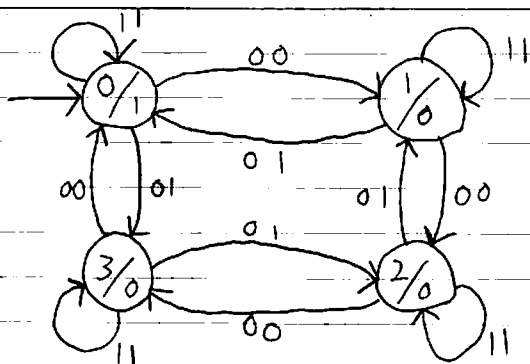
$$E = E_1 \cdot E_0$$

$$(1-3) \quad S = S_1 \cdot \bar{E}_1 + S_1 \cdot S_0$$

$$= (S_1 \cdot \bar{E}_1) \cdot (S_1 \cdot S_0)$$



(2-1)



(2-2)

現状態 $Q_1, Q_0$	次状態 $x_1, x_0$			出力
	00	01	11	
00	01	11	00	1
01	10	00	01	0
11	00	10	11	0
10	11	01	10	0

(2-3)

$Q_1, Q_0$	$D_1$			
	00	01	11	10
00	0	1	0	d
01	1	0	0	d
11	0	1	1	d
10	1	0	1	d

$Q_1, Q_0$	$D_0$			
	00	01	11	10
00	1	1	0	d
01	0	0	1	d
11	0	0	1	d
10	1	1	0	d

$$D_1 = Q_1 \cdot x_1 + \bar{Q}_1 \cdot Q_0 \cdot x_0 + Q_1 \cdot \bar{Q}_0 \cdot \bar{x}_0 + \bar{Q}_1 \cdot Q_0 \cdot \bar{x}_0 + \bar{Q}_1 \cdot \bar{Q}_0 \cdot x_1 \cdot x_0$$

$$D_0 = \bar{Q}_0 \cdot \bar{x}_1 + Q_0 \cdot x_1 \quad f = \bar{Q}_1 \cdot \bar{Q}_0$$