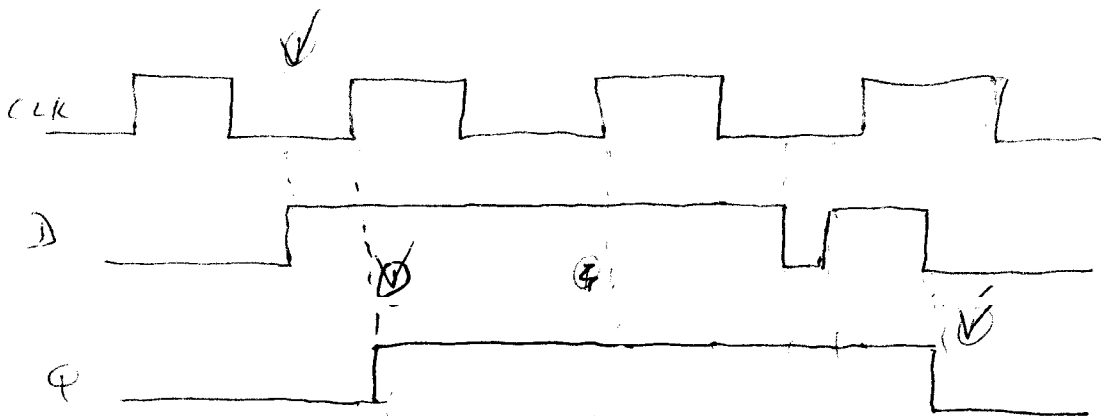
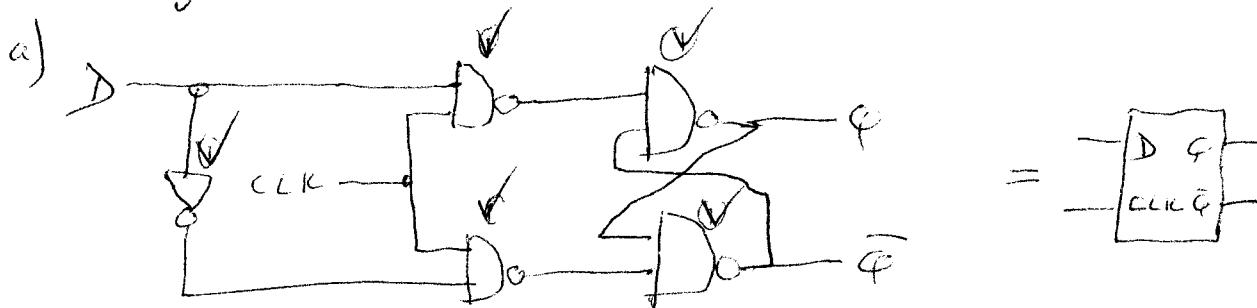
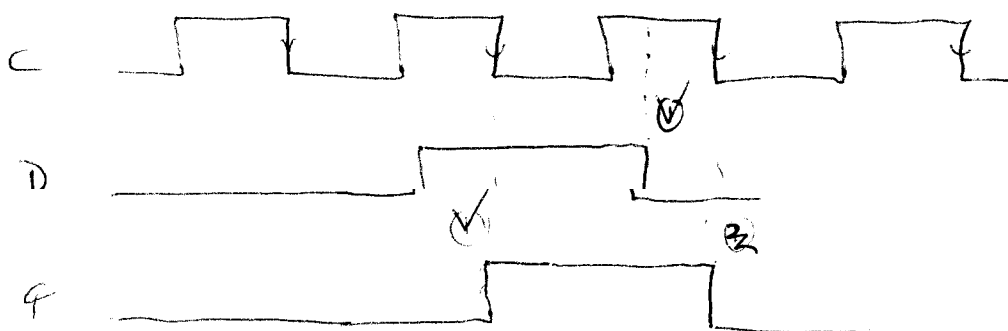
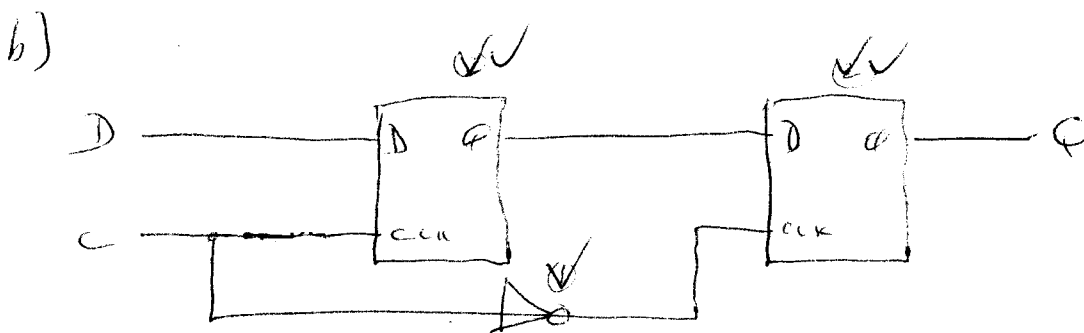


①



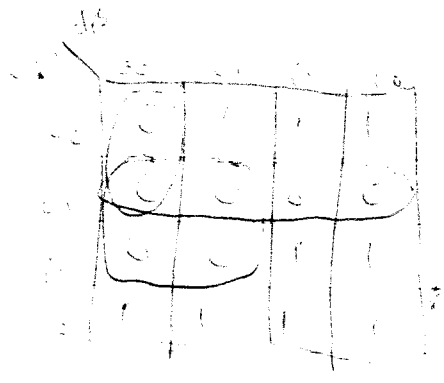
8



7

2) a) $F = (A+B+\bar{C}+\bar{D})(C+\bar{D})(A+B+C+D)(A+\bar{B}+\bar{C}+\bar{D})$

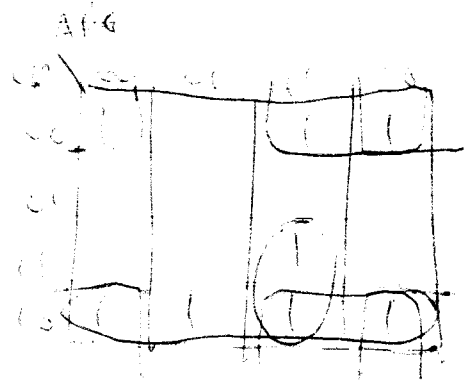
	$\bar{C}\bar{D}$	$C\bar{D}$	$C D$	$\bar{C} D$
$\bar{A}\bar{B}$	0	0	0	1
$\bar{A}B$	1	0	0	1
$A\bar{B}$	1	0	1	1
AB	1	0	1	1



$F = (C+\bar{D})(A+\bar{D})(A+B+C) \rightarrow$

b) $F = A\bar{B}\bar{C}\bar{D} + C\bar{D} + ABC\bar{D} + \bar{B}\bar{C}\bar{D}$

	$\bar{C}\bar{D}$	$C\bar{D}$	$C D$	$\bar{C} D$
$\bar{A}\bar{B}$	1			1
$\bar{A}B$				1
$A\bar{B}$	1	1	1	1
AB	1			1



$F = \bar{B}\bar{D} + A\bar{D} + C\bar{D} + ABC \rightarrow$

-2 peci saat

$\bar{A}\bar{B} + \bar{C}\bar{D}$

$\bar{D} - \bar{C} \rightarrow \bar{D}\bar{C}$

$\bar{D} - \bar{C} \rightarrow \bar{D}\bar{C}$

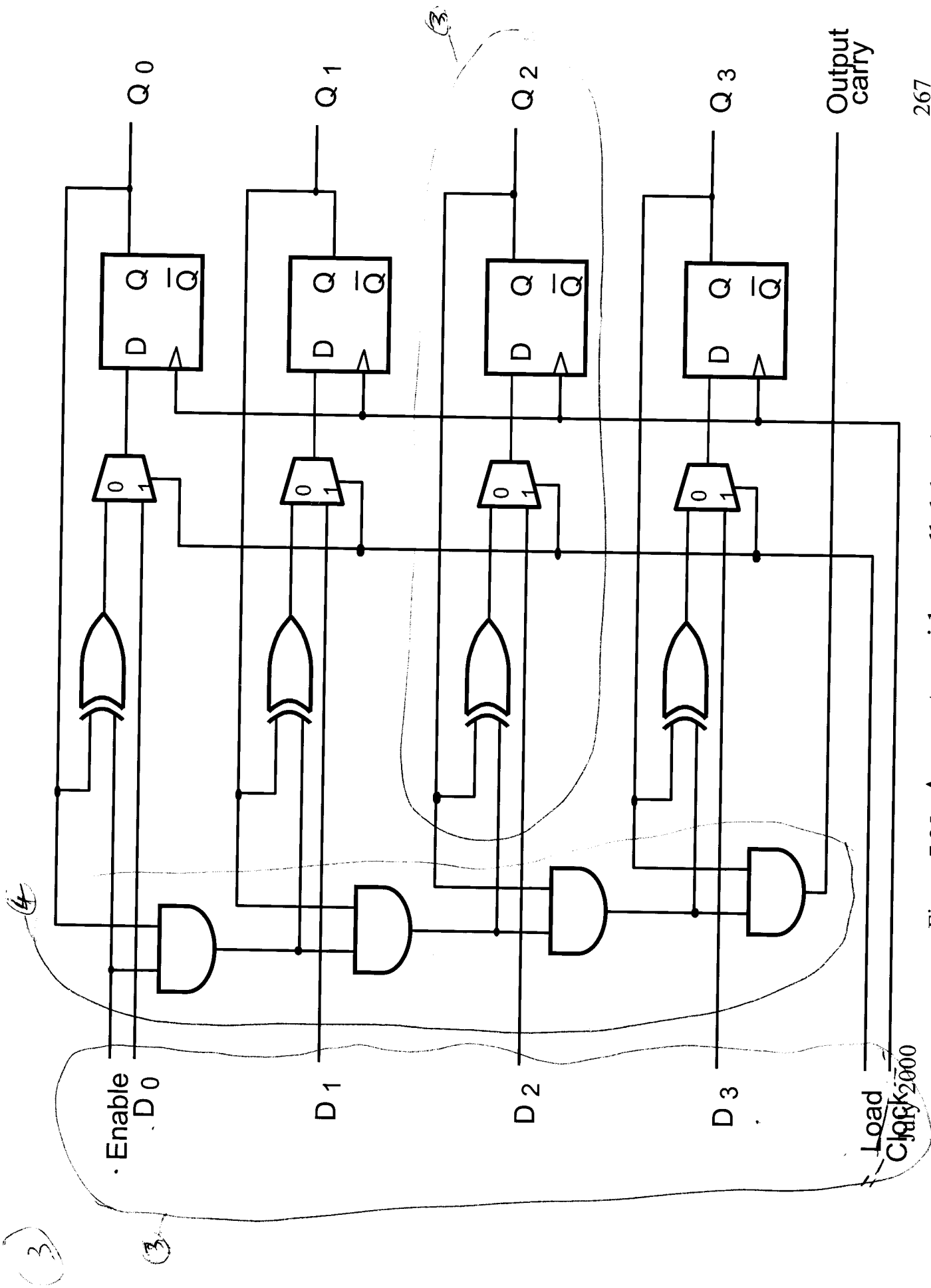
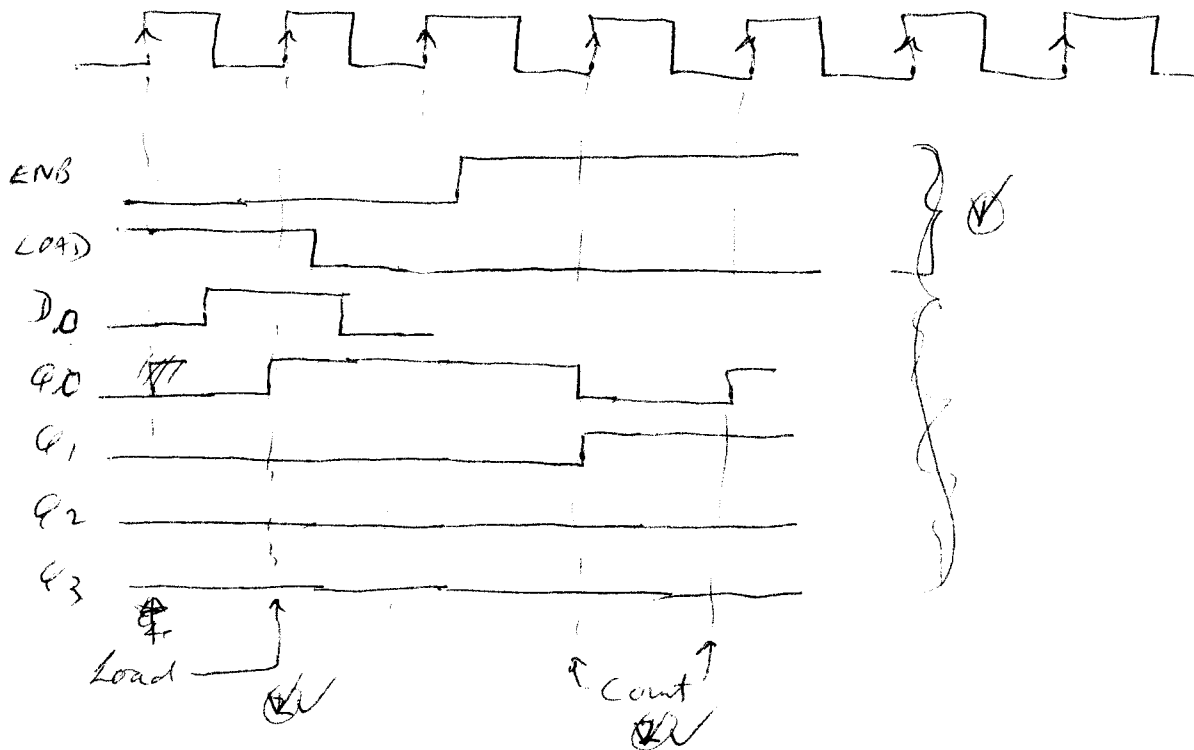


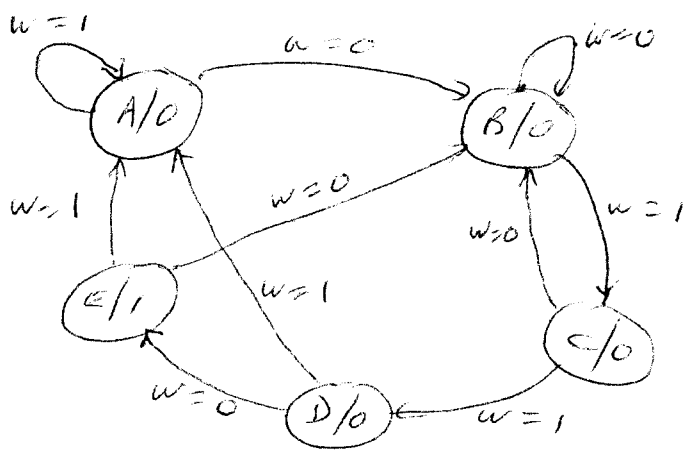
Figure 7.25 A counter with parallel-load capability

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a)



Present State P	Next State N		f
	w=0	w=1	
A	B	A	0
B	B	C	0
C	B	D	0
D	E	A	0
E	B	A	1

Present P ₂ P ₁ P ₀	Next N ₂ N ₁ N ₀		f
	w=0	w=1	
A 000	001	000	0
B 001	001	010	0
C 010	001	011	0
D 011	100	000	0
E 100	001	000	1
101	d	d	d
110	d	d	d
111	d	d	d

N₂

		$P_2, P_1 \backslash P_0, W$			
		00	01	11	10
P_2	00				
	01				1
	11	d	d	d	d
	10			d	d

$$N_2 = P_1 P_0 \bar{w}$$

N₁

		$P_2, P_1 \backslash P_0, W$			
		00	01	11	10
P_2	00		1	1	
	01		1		
	11	d	d	d	d
	10			d	d

$$N_1 = P_1 \bar{P}_0 W + \bar{P}_1 P_0 W$$

4

N₀

		$P_2, P_1 \backslash P_0, W$			
		00	01	11	10
P_2	00	1			1
	01	1	1		
	11	d	d	d	d
	10	1		d	d

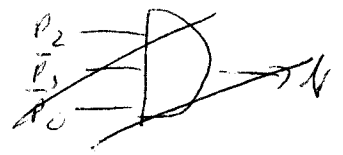
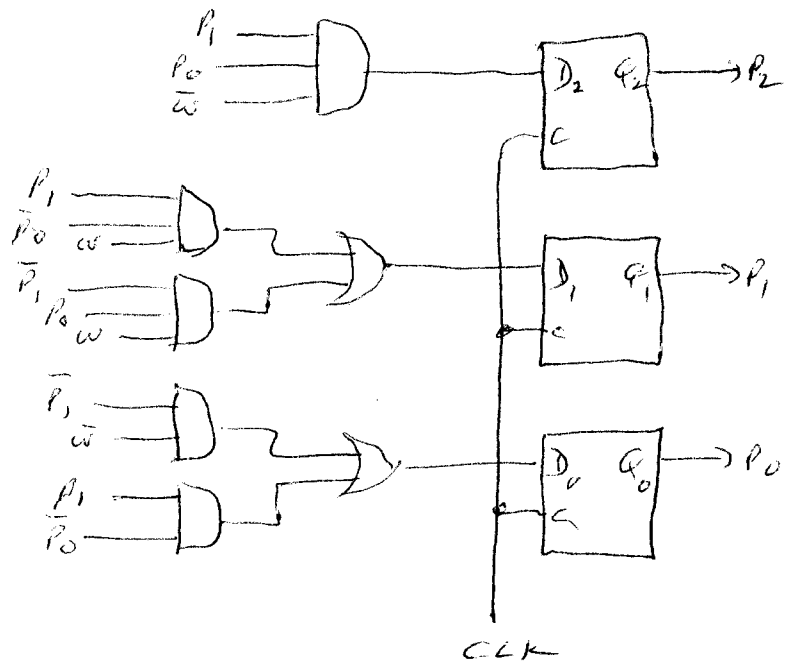
$$N_0 = \bar{P}_1 \bar{w} + P_1 \bar{P}_0$$

f

		$P_2, P_1 \backslash P_0, W$			
		00	01	11	10
P_2	0				
	1	1	d	d	d

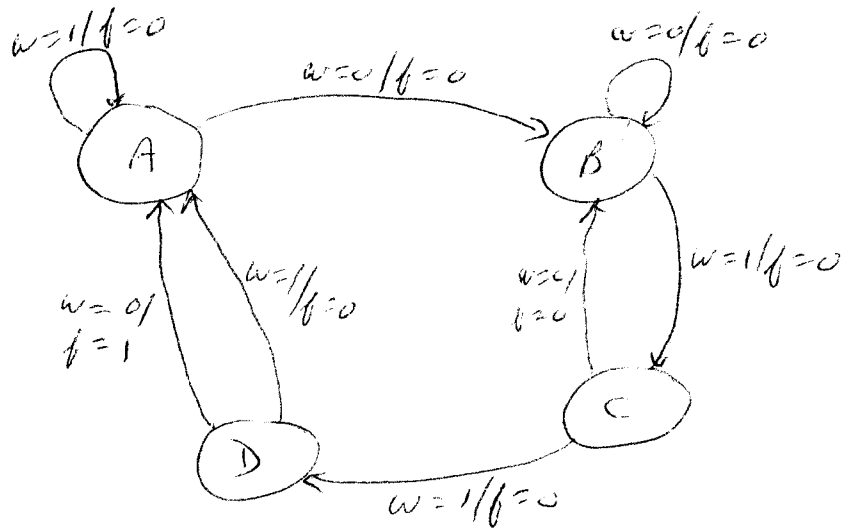
~~$$f = P_2 \bar{P}_1 \bar{P}_0$$~~

$$f = P_2$$



$P_2 \rightarrow f$

6 b)



Present P	Next N		f	
	w=0	w=1	w=0	w=1
A	B	A	0	0
B	B	C	0	0
C	B	D	0	0
D	A	A	1	0

Present P ₁ P ₀	Next N ₁ N ₀		f	
	w=0	w=1	w=0	w=1
00	01	00	0	0
01	01	10	0	0
10	01	11	0	0
11	00	00	1	0

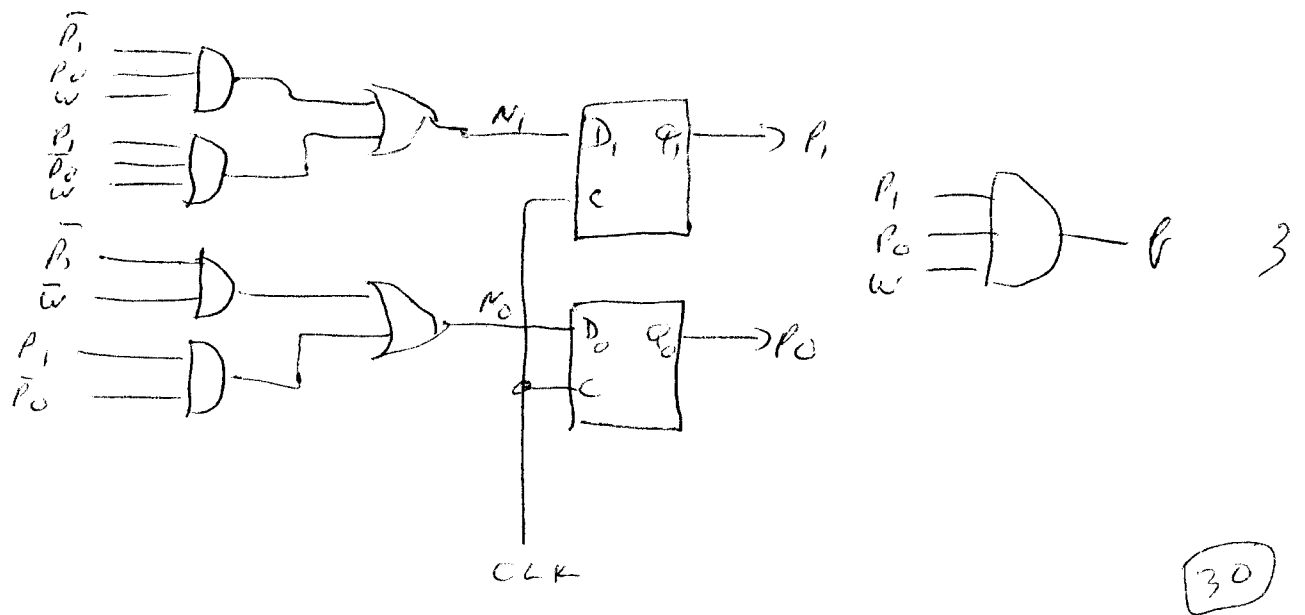
N ₁ P ₁	P ₀ w			
	00	01	11	10
0			(1)	
1		(1)		

$$N_1 = \bar{P}_1 P_0 w + P_1 \bar{P}_0 w$$

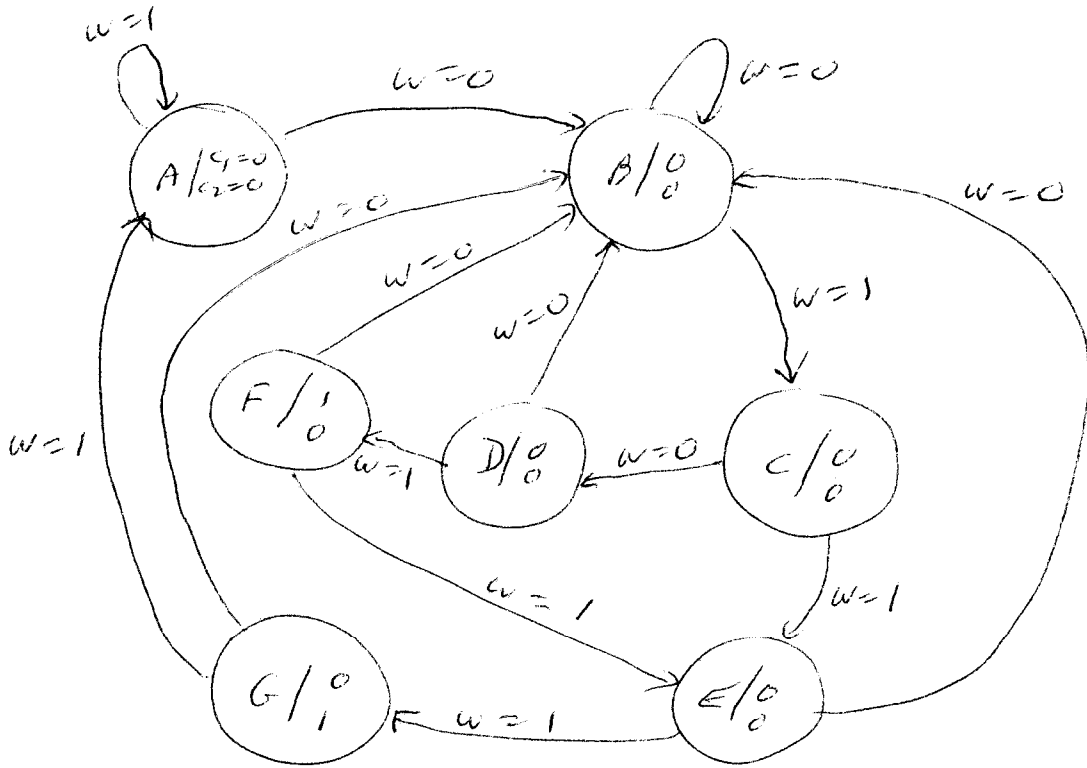
N ₀ P ₁	P ₀ w			
	00	01	11	10
0	(1)			(1)
1	(1)	(1)		

$$N_0 = \bar{P}_1 \bar{w} + P_1 \bar{P}_0$$

$$f = P_1 P_0 \bar{w}$$



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Present	Next N		Output	
	w=0	w=1	c ₁	c ₂
A	B	A	0	0
B	B	C	0	0
C	D	E	0	0
D	B	F	0	0
E	B	G	0	0
F	B	E	1	0
G	B	A	0	1

3

	Present P ₂ P ₁ P ₀	Next N ₂ N ₁ N ₀		Output	
		w=0	w=1	c ₁	c ₂
A	000	001	000	1	1
B	001	001	010	1	1
C	010	011	100	0	0
D	011	001	101	1	1
E	100	001	110	1	1
F	101	001	100	1	0
G	110	001	000	0	1
	111	d	d	d	d

N_2

P_2, P_1, P_0, w	P_0			
P_2, P_1	00	01	11	10
00				
01		1	1	
11			d	d
10	1	1		

w

$$N_2 = \bar{P}_2 P_1 w + P_2 \bar{P}_1 w$$

N_1

P_2, P_1, P_0, w	P_0			
P_2, P_1	00	01	11	10
00			1	
01	1			
11			d	d
10		1		

$$N_1 = \bar{P}_2 P_1 \bar{P}_0 \bar{w} + \bar{P}_2 \bar{P}_1 P_0 w + P_2 \bar{P}_1 \bar{P}_0 w$$

N_0

P_2, P_1, P_0, w	P_0			
P_2, P_1	00	01	11	10
00	1			1
01	1		1	1
11	1		d	d
10	1			1

w

$$N_0 = \bar{w} + P_1 P_0$$

c_1

P_2, P_1, P_0	P_0			
P_2, P_1	00	01	11	10
0				
1		1	d	

$$c_1 = P_2 P_0$$

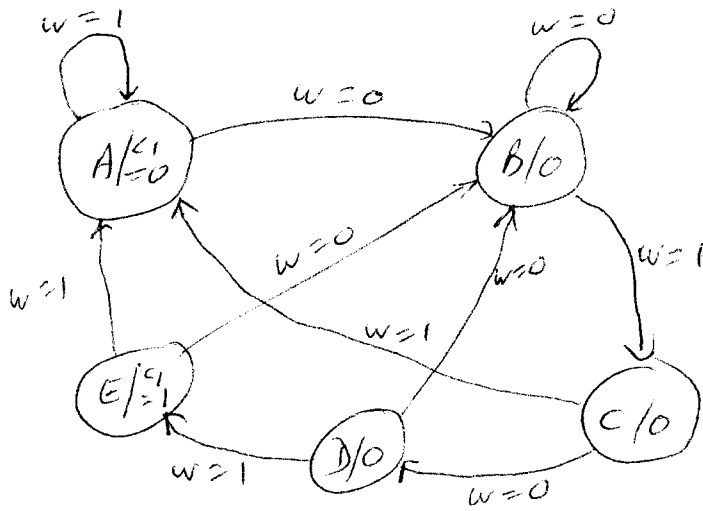
c_2

P_2, P_1, P_0	P_0			
P_2, P_1	00	01	11	10
0				
1			d	1

$$c_2 = P_2 P_1$$

⑦ Alternativ

c₁



c₂

