

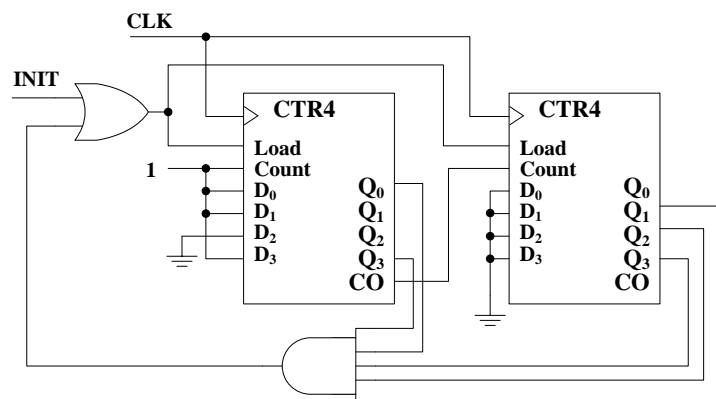
第六章布置习题参考解

6-6 解:

a) 1000, 0100, 0010, 0001, 1000

b) n 个状态

6-13 解: $(11)_{10}=(00001011)_2$, $(233)_{10}=(11101001)_2$



6-16 解:

根据计数顺序，可以列出状态表如下：

Present state			Next state		
A	B	C	A	B	C
0	0	0	0	1	0
0	0	1	0	1	1
0	1	0	0	0	1
0	1	1	1	0	0
1	0	0	1	1	0
1	0	1	1	1	1
1	1	0	1	0	1
1	1	1	0	0	0

根据此状态表，可以写出激励函数：

$$D_A = A\bar{B} + A\bar{C} + \bar{A}BC$$

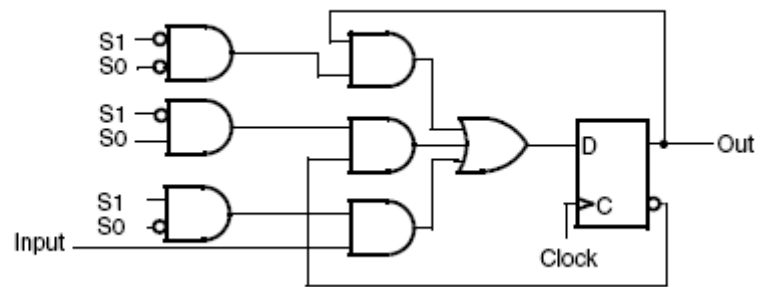
$$D_B = \bar{B}$$

$$D_C = \bar{B}C + B\bar{C}$$

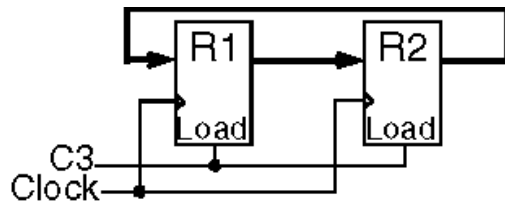
电路图略

6-17 解:

The basic cell of the register is as follows:



6-19



6-23

采用时序逻辑设计方法设计。假设 $C_0C_1=00$ 、 11 时寄存器 A 保持。

状态表:

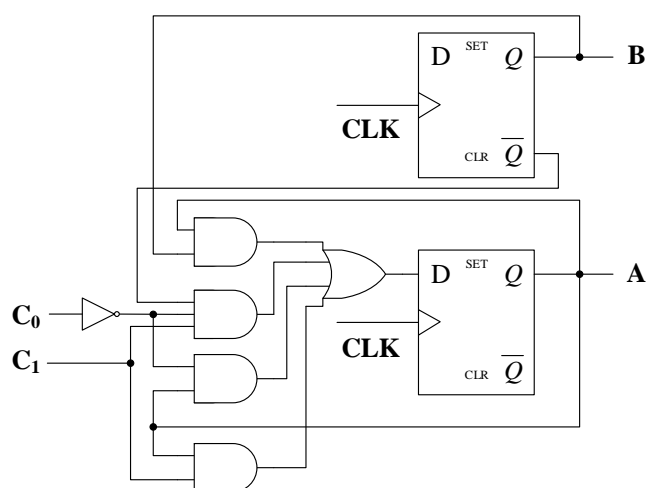
C_0	C_1	A	B	A'
0	0	0	0	0
0	0	0	1	0
0	0	1	0	1
0	0	1	1	1
0	1	0	0	1
0	1	0	1	0
0	1	1	0	1
0	1	1	1	1
1	0	0	0	0
1	0	0	1	0
1	0	1	0	0
1	0	1	1	1
1	1	0	0	0
1	1	0	1	0
1	1	1	0	1
1	1	1	1	1

激励方程:

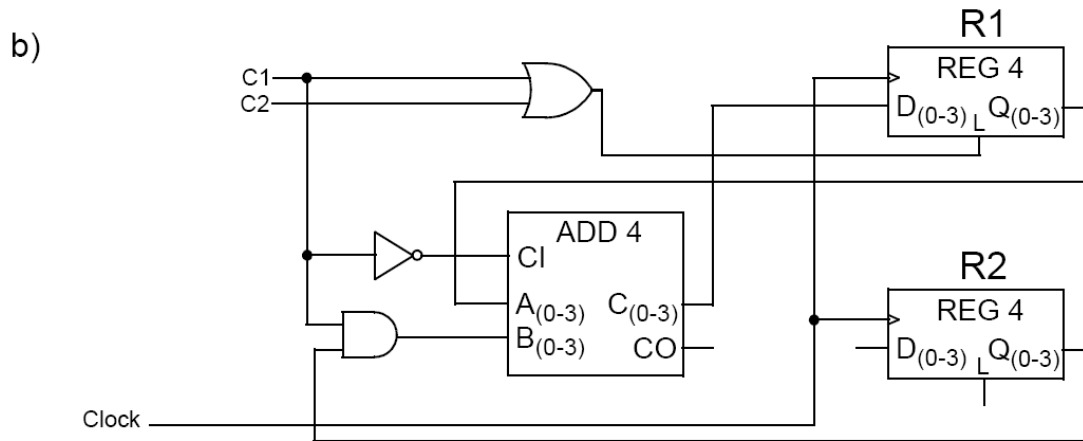
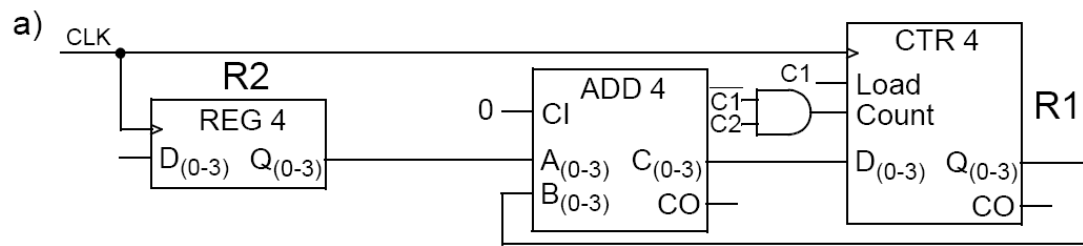
$$D_A = AB + \overline{C_0}C_1\overline{B} + \overline{C_0}A + C_1A$$

原理图:

$C_0C_1 \backslash AB$	00	01	11	10
00	0	0	1	1
01	1	0	1	1
11	0	0	1	1
10	0	0	1	0



6-27



6-34

0101 → 1010 → 0101 → 1010 → 1101 → 0110 → 0011 → 0001 → 1000