4.4

$$D_0 = Q_1$$

激励函数: $D_1 = Q_2$

$$D_2 = \overline{Q_2 + Q_1} \oplus (Q_1 \oplus Q_0)$$

激励/转换表:

$Q_2\ Q_1\ Q_0$	$D_2\ D_1\ D_0$	$Q_2^{n+1}Q_1^{n+1}Q_0^{n+1}$
000	100	100
001	000	000
010	101	101
011	001	001
100	010	010
101	110	110
110	111	111
111	011	011

状态/输出表

$Q_2\ Q_1\ Q_0$	$Q_2^{n+1}Q_1^{n+1}Q_0^{n+1}$
A	E
B	A
C	F
D	B
E	C
F	G
G	H
H	D

4.17

$$D_1 = \overline{Q_3 \oplus Q_4 + Q_2}$$

$$D_2 = Q_1\overline{Q_3 + Q_4} + \overline{Q_1}Q_2$$

激励函数: $D_3 = (Q_1 + \overline{Q_2})Q_3 + \overline{Q_1}Q_2\overline{Q_4}$

$$D_4 = \overline{Q_1}\,\overline{Q_2}Q_3 + (Q_1 + Q_2)Q_4$$

$$Q_1^{n+1} = D_1 = \overline{Q_3 \oplus Q_4 + Q_2} = Q_4Q_3\overline{Q_2} + \overline{Q_4}\,\overline{Q_3}\,\overline{Q_2}$$

$$Q_2^{n+1} = D_2 = Q_1\overline{Q_3 + Q_4} + \overline{Q_1}Q_2 = \overline{Q_4}\,\overline{Q_3}Q_1 + Q_2\overline{Q_1}$$

$$Q_3^{n+1} = D_3 = (Q_1 + \overline{Q_2})Q_3 + \overline{Q_1}Q_2\overline{Q_4} = \overline{Q_4}Q_2\overline{Q_1} + Q_3\overline{Q_2} + Q_3Q_1$$

$$Q_4^{n+1} = D_4 = \overline{Q_1}\,\overline{Q_2}Q_3 + (Q_1 + Q_2)Q_4 = Q_4Q_2 + Q_4Q_1 + Q_3\overline{Q_2}\,\overline{Q_1}$$

$Q_4 Q_3 Q_2 Q_1$	$D_4 D_3 D_2 D_1$	$Q_4^{n+1} Q_3^{n+1} Q_2^{n+1} Q_1^{n+1}$
0000	0001	0001
0001	0011	0011
0010	0110	0110
0011	0010	0010
0100	1100	1100
0101	0100	0100
0110	0110	0110
0111	0100	0100
1000	0000	0000
1001	1000	1000
1010	1010	1010
1011	1000	1000
1100	1101	1101
1101	1101	1101
1110	1010	1010
1111	1100	1100

$Q_4 Q_3 Q_2 Q_1$	$Q_4^{n+1} Q_3^{n+1} Q_2^{n+1} Q_1^{n+1}$
0	1
1	3
2	6
3	2
4	12
5	4
6	6
7	4
8	0
9	8
10	10
11	8
12	13
13	13
14	10
15	12