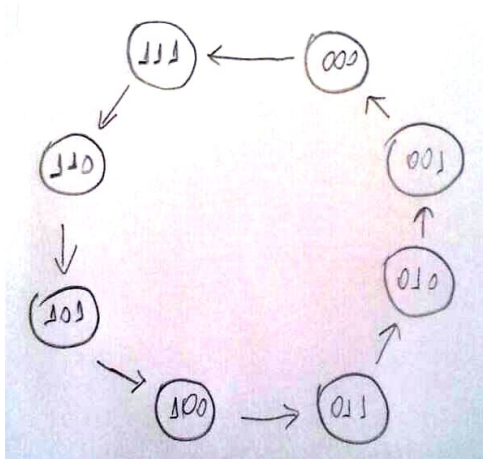


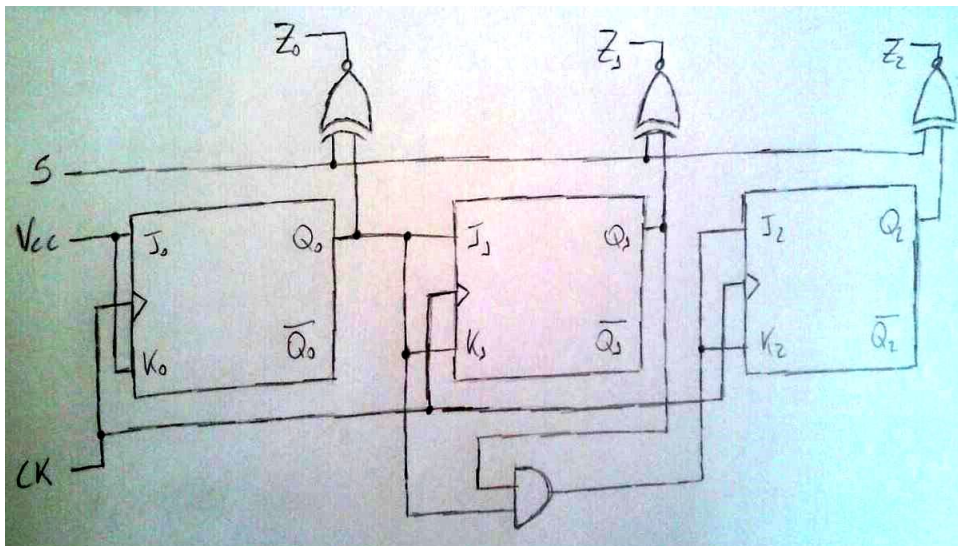
01

Nos contadores síncronos temos o clock conectado ao todos os FF's, de forma que a mudança de estados ocorre simultaneamente, ao contrário do que ocorre nos contadores assíncronos, em que o clock é conectado apenas ao primeiro FF, fazendo com que o atraso na resposta da saída com relação à entrada seja propagado pelos FF's, resultando em uma falta de sincronia com relação à mudança de estados.

02



03



04

Q_3	Q_2	Q_1	Q_0	J_3	K_3	J_2	K_2	J_1	K_1	J_0	K_0
0	0	0	1	0	X	0	X	1	X	X	1
0	0	1	0	0	X	1	X	X	1	0	X
0	1	0	0	1	X	X	1	0	X	0	X
1	0	0	0	X	1	0	X	0	X	1	X

$Q_3 Q_2$

$Q_3 Q_2$	00	01	11	10
00	X	0	X	0
01	1	X	X	X
11	X	X	X	X
10	X	X	X	X

$J_3 = Q_2$

$Q_3 Q_2$

$Q_3 Q_2$	00	01	11	10
00	X	1	X	X
01	0	X	X	X
11	X	X	X	X
10	0	X	X	X

$J_1 = Q_0$

$Q_3 Q_2$

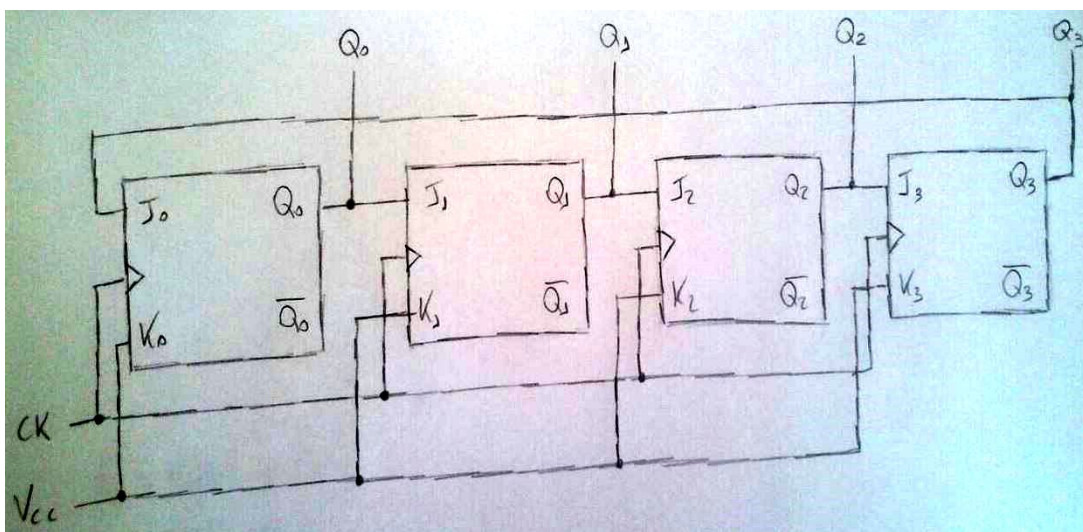
$Q_3 Q_2$	00	01	11	10
00	X	0	X	1
01	X	X	X	X
11	X	X	X	X
10	0	X	X	X

$J_2 = Q_1$

$Q_3 Q_2$

$Q_3 Q_2$	00	01	11	10
00	X	X	X	0
01	0	X	X	X
11	X	X	X	X
10	1	X	X	X

$J_0 = Q_3$



05

Q_2	Q_1	Q_0	J_2	K_2	J_1	K_1	J_0	K_0
0	0	0	0	X	0	X	1	X
0	0	1	0	X	1	X	X	1
0	1	0	0	X	X	0	1	X
0	1	1	1	X	X	1	X	1
1	0	0	X	1	0	X	0	X
1	0	1	X	1	0	X	X	1
1	1	0	X	1	X	1	0	X
1	1	1	X	1	X	1	X	1

Q_2	Q_1	Q_0
0	0	0
0	0	1
0	1	0
0	1	1
1	0	0
1	0	1
1	1	0
1	1	1

$J_2 = Q_1 Q_0$

Q_2	Q_1	Q_0
0	0	0
0	0	1
0	1	0
0	1	1
1	0	0
1	0	1
1	1	0
1	1	1

$K_2 = 1$

Q_2	Q_1	Q_0
0	0	0
0	0	1
0	1	0
0	1	1
1	0	0
1	0	1
1	1	0
1	1	1

$J_1 = \bar{Q}_2 Q_0$

Q_2	Q_1	Q_0
0	0	0
0	0	1
0	1	0
0	1	1
1	0	0
1	0	1
1	1	0
1	1	1

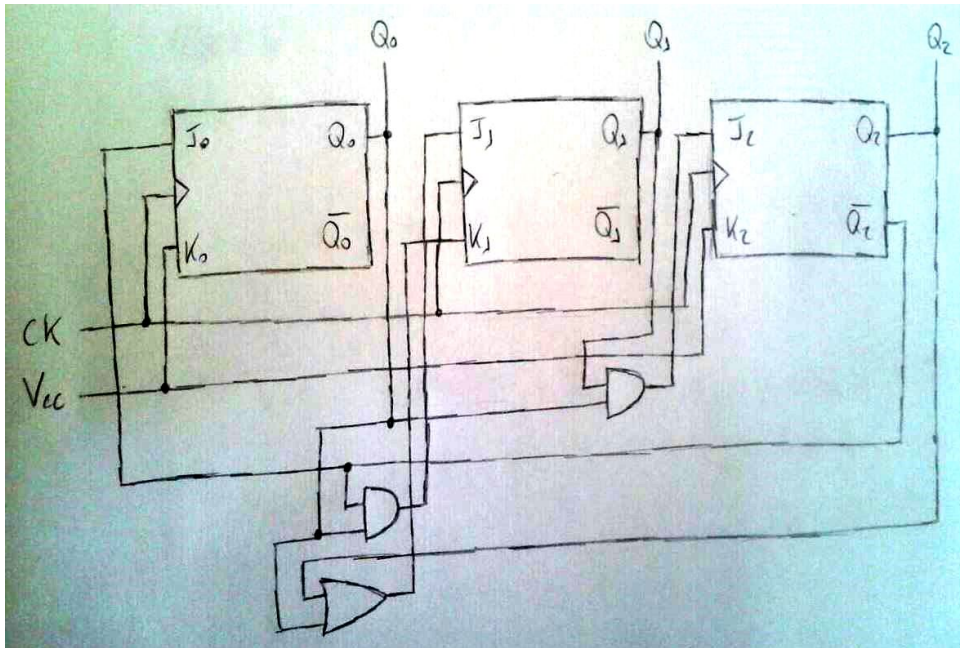
$K_1 = Q_2 + Q_0$

Q_2	Q_1	Q_0
0	0	0
0	0	1
0	1	0
0	1	1
1	0	0
1	0	1
1	1	0
1	1	1

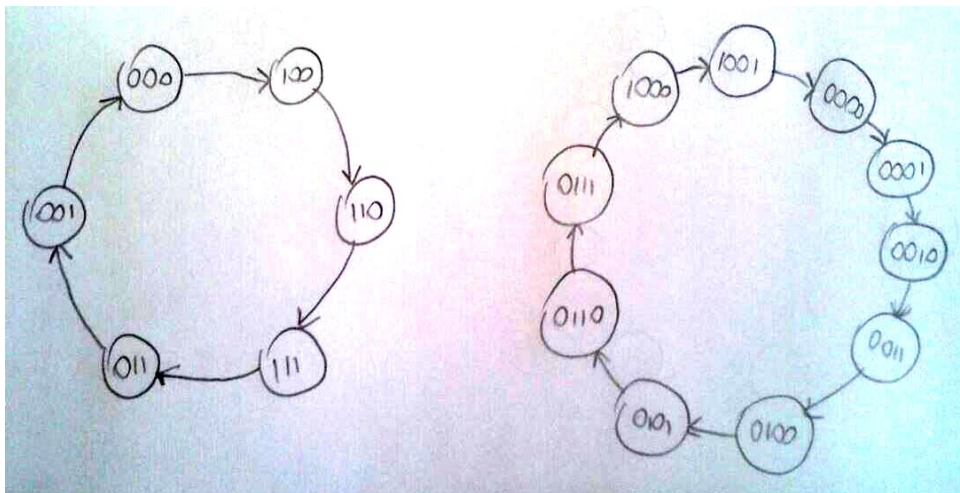
$J_0 = \bar{Q}_2$

Q_2	Q_1	Q_0
0	0	0
0	0	1
0	1	0
0	1	1
1	0	0
1	0	1
1	1	0
1	1	1

$K_0 = 1$



07



07

D	B	A	J_1	K_1	J_0	K_0
0	0	0	0	X	1	X
0	0	1	1	X	X	0
0	1	1	X	0	X	1
0	1	0	X	1	0	X
1	0	0	1	X	0	X
1	1	0	X	0	1	X
1	1	1	X	1	X	0
1	0	1	0	X	X	1

		BA			
		00	01	11	10
D	0	0	1	X	X
	1	1	0	X	X

$J_1 = \bar{D}A + D\bar{A} = D \oplus A$

		BA			
		00	01	11	10
D	0	X	X	0	1
	1	X	X	1	0

$K_1 = \bar{D}\bar{A} + DA = \overline{D \oplus A}$

		BA			
		00	01	11	10
D	0	1	X	X	0
	1	0	X	X	1

$J_0 = \bar{D}\bar{B} + DB = \overline{D \oplus B}$

		BA			
		00	01	11	10
D	0	X	0	1	X
	1	X	1	0	X

$K_0 = \bar{D}B + D\bar{B} = D \oplus B$

