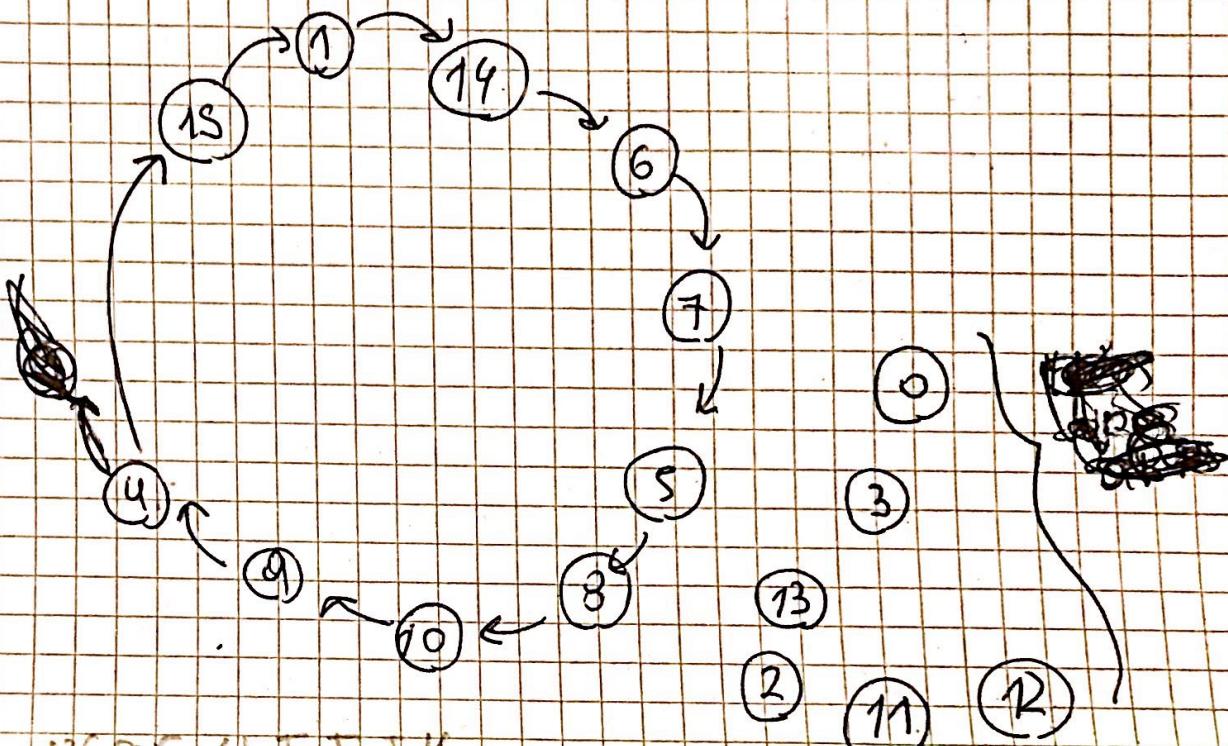


Construir un contador síncrono usando FFJK
Mi secuencia:

15
1
14
6
7
5
8
10
11
prohibido
13
2
11
12



10 y a usar 4 FFJK

$Q_4\ Q_3\ Q_2\ Q_1\ | Q_4\ Q_3\ Q_2\ Q_1\ J_4\ K_4\ | J_3\ K_3\ | J_2\ K_2\ | J_1\ K_1$

	Q_4	Q_3	Q_2	Q_1	Q_4	Q_3	Q_2	Q_1	J_4	K_4	J_3	K_3	J_2	K_2	J_1	K_1
0	0	0	0	0	-	-	-	-	1	x	1	x	1	x	1	x
1	0	0	0	1	1	1	1	0	1	x	1	x	1	x	1	x
2	0	0	1	0	-	-	-	-	0	x	0	x	0	x	0	x
3	0	0	1	1	-	-	-	-	0	x	0	x	0	x	0	x
4	0	1	0	0	1	1	1	1	1	x	x	0	1	0	x	1
5	0	1	0	1	1	0	0	0	0	1	x	1	0	x	1	x
6	0	1	1	0	0	1	1	0	0	0	x	x	0	x	0	x
7	0	1	1	1	0	1	0	1	0	0	x	x	0	x	1	x
8	1	0	0	0	1	0	1	0	0	x	0	0	x	1	0	x
9	1	0	0	1	0	0	1	0	0	x	1	1	x	0	x	1
10	1	0	1	0	1	0	0	1	0	x	0	x	1	x	1	x
11	1	0	1	1	-	-	-	-	-	-	-	-	-	-	-	-
12	1	1	0	0	-	-	-	-	-	-	-	-	-	-	-	-
13	1	1	0	1	-	-	-	-	-	-	-	-	-	-	-	-
14	1	1	1	0	0	1	1	0	x	1	x	0	x	0	x	1
15	1	1	1	1	0	0	0	1	x	1	x	1	x	1	x	0

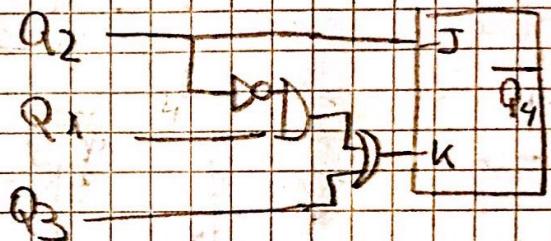
1er FF

$\bar{Q}_2 Q_1$	00	01	11	10
$Q_1 Q_0$	X	1	X	X
00	X	1	0	0
01	1	1	0	0
11	X	X	X	X
10	X	X	X	X

$\bar{Q}_2 Q_1$	00	01	11	10
$Q_1 Q_0$	X	X	XX	XX
00	X	X	X	X
01	X	X	X	X
11	X	X	X	X
10	0	0	1	1

$$K_1 = \bar{Q}_2 Q_1 + Q_3$$

$$J_4 = Q_2$$

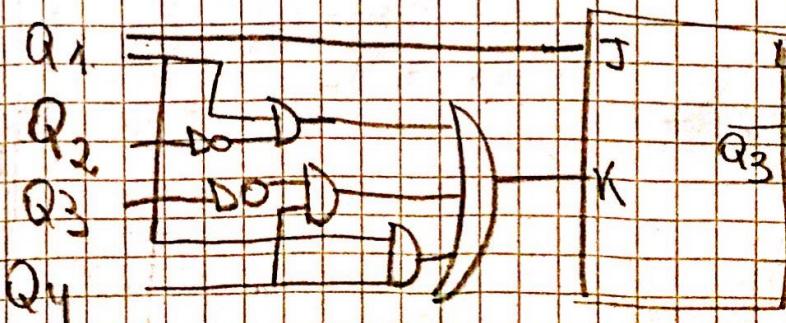


2do FF

$\bar{Q}_2 Q_1$	00	01	11	10	$\bar{Q}_2 Q_1$	00	01	11	10
$Q_1 Q_0$	X	1	X	X	$Q_1 Q_0$	X	1	X	X
00	X	X	X	X	01	0	1	0	0
01	X	X	X	X	11	X	X	1	0
11	X	X	X	X	10	X	X	1	1
10	0	1	X	X					

$$J_3 = Q_1$$

$$K_3 = \bar{Q}_2 Q_1 + Q_4 Q_1 + Q_4 \bar{Q}_3$$



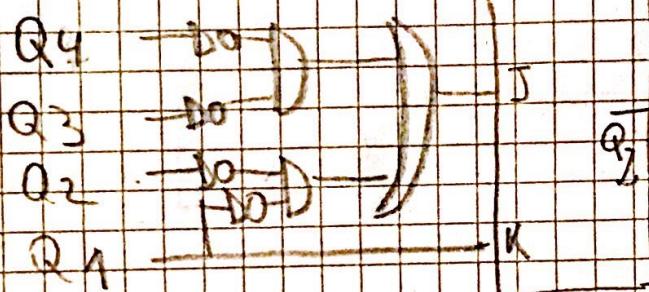
3^{er} FF

$\bar{Q}_2 Q_1$	00	01	11	10
$\bar{Q}_4 \bar{Q}_3$	X	1	X	X
00	1	0	X	X
01	X	X	X	X
11	1	0	X	X

	00	01	11	10
$\bar{Q}_2 Q_1$	X	X	X	X
00	X	X	1	0
01	X	X	1	0
11	X	X	1	0
10	X	X	X	1

$$J_2 = \bar{Q}_2 \bar{Q}_1 + \bar{Q}_4 \bar{Q}_3$$

$$K_2 = Q_1$$



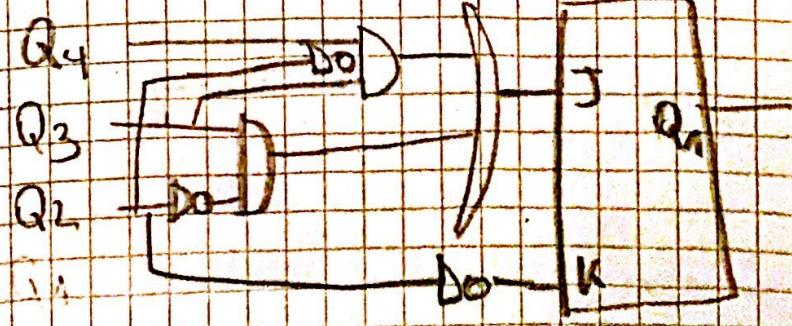
4^{to} FF

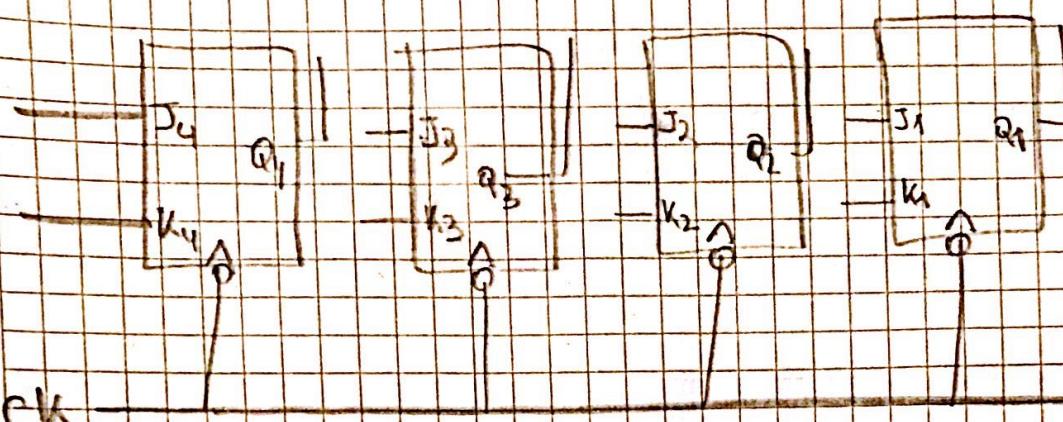
$\bar{Q}_2 Q_1$	00	01	11	10
$\bar{Q}_4 \bar{Q}_3$	X	X	X	X
00	X	X	0	-
01	1	X	X	0
11	X	X	X	0
10	0	X	X	1

$\bar{Q}_2 Q_1$	00	01	11	10
$\bar{Q}_4 \bar{Q}_3$	X	1	X	X
00	X	1	0	-
01	X	1	0	-
11	X	X	0	-
10	X	1	X	1

$$J_1 = Q_3 \bar{Q}_2 + \bar{Q}_4 \bar{Q}_3 Q_2$$

$$K_1 = Q_2$$





ck

$$\text{Com} \cdot J_4 = Q_2$$

$$\cdot K_4 = \bar{Q}_2 Q_1 + \bar{Q}_3$$

$$\cdot J_2 = Q_1$$

$$\cdot K_3 = \bar{Q}_2 Q_1 + Q_4 Q_1 + Q_4 \bar{Q}_3$$

$$\cdot J_2 = \bar{Q}_2 \bar{Q}_1 + \bar{Q}_4 \bar{Q}_3$$

$$\cdot K_2 = Q_1$$

$$\cdot J_1 = Q_3 \bar{Q}_2 + Q_4 \bar{Q}_3 \bar{Q}_2$$

$$\cdot K_1 = \bar{Q}_2$$

donde los estados prohibidos (0, 3, 13, 2, n, 12) quedan tambien definidos, es decir, $W_{\text{Von N}}$ la secuencia principal.