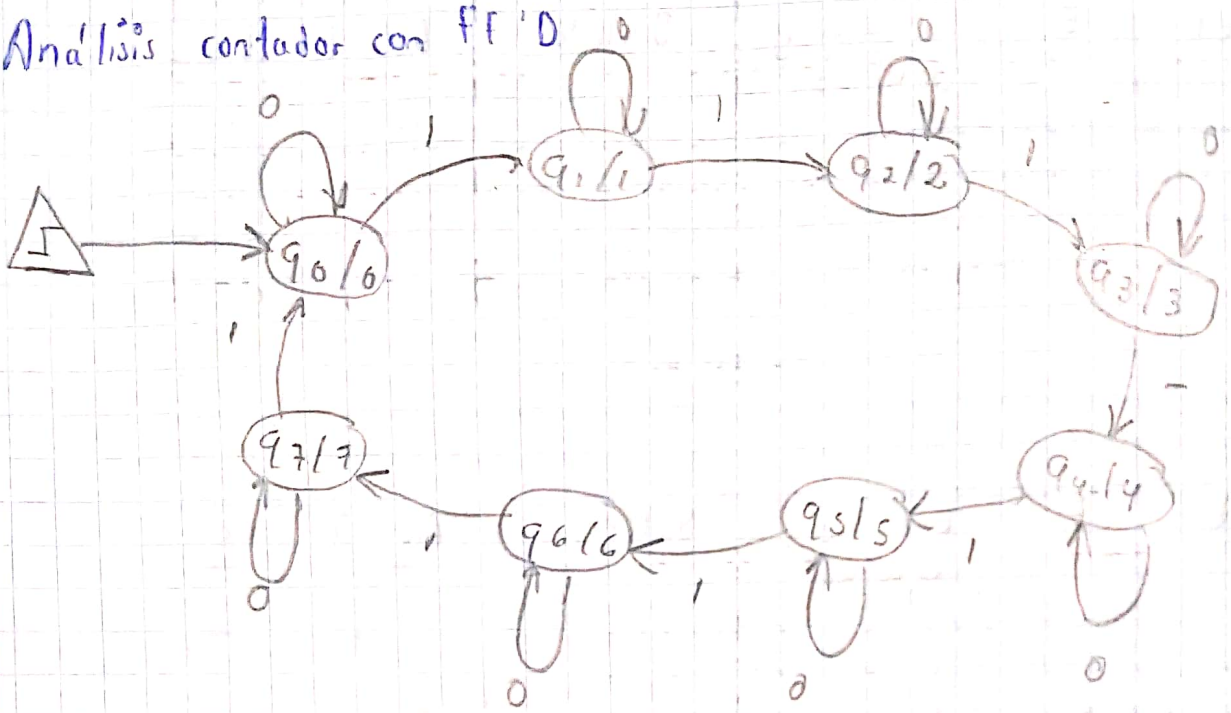
Santos Méndez Ulises Jesús

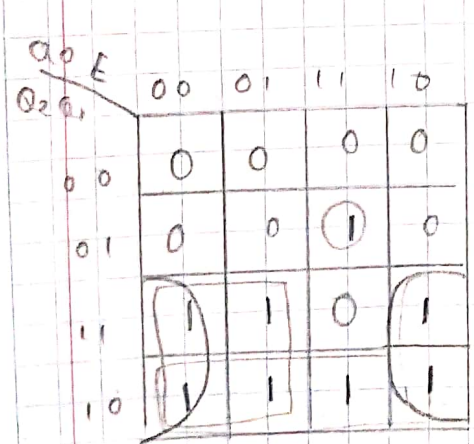
Análisis contador con FF 'D



Edo_act	E	Edo_sig	Salida
q0	1	q1	0
q1	1	q2	1
q2	1	q3	2
q3	1	q4	3
q4	1	q5	4
q5	1	q6	5
q6	1	q7	6
q7	1	q0	7
q0	0	q0	0
q1	0	q1	1
q2	0	q2	2
q3	0	q3	3
q4	0	q4	4
q5	0	q5	5
q6	0	q6	6
q7	0	q7	7

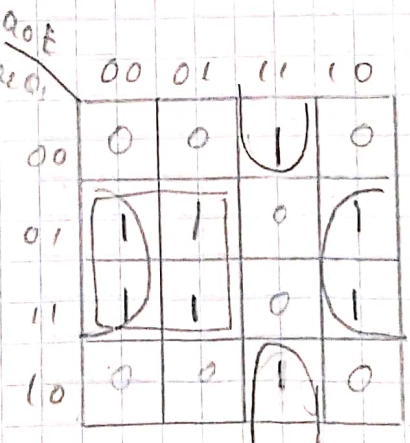
Edo_Act	E	Edo_sig	Salida	D2	D1	D0
$Q_2 Q_1 Q_0$		$Q_2^+ Q_1^+ Q_0^+$				
0 0 0	1	0 0 1	0 0 0	0	0	1
0 0 1	1	0 1 0	0 0 1	0	1	0
0 1 0	1	0 1 1	0 1 0	0	1	1
0 1 1	1	1 0 0	0 1 1	1	0	0
1 0 0	1	1 0 1	1 0 0	1	0	1
1 0 1	1	1 1 0	1 0 1	1	1	0
1 1 0	1	1 1 1	1 1 0	1	1	1
1 1 1	1	0 0 0	1 1 1	0	0	0

Edo_Act	E	Edo_Sig	Salida	D2	D1	D0
$Q_2 Q_1 Q_0$		$Q_2^+ Q_1^+ Q_0^+$				
0 0 0	0	0 0 0	0 0 0	0	0	0
0 0 1	0	0 0 1	0 0 1	0	0	1
0 1 0	0	0 1 0	0 1 0	0	1	0
0 1 1	0	0 1 1	0 1 1	0	1	1
1 0 0	0	1 0 0	1 0 0	1	0	0
1 0 1	0	1 0 1	1 0 1	1	0	1
1 1 0	0	1 1 0	1 1 0	1	1	0
1 1 1	0	1 1 1	1 1 1	1	1	1



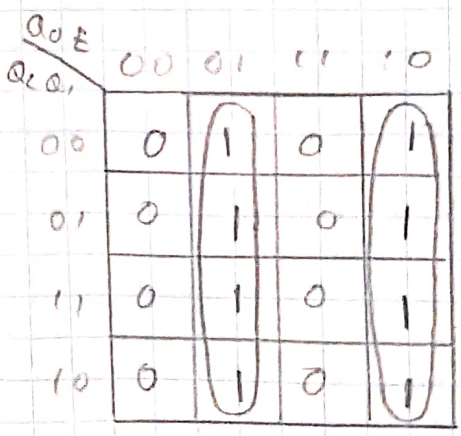
$D_2 = Q_2\bar{Q}_1 + Q_2\bar{Q}_0 + Q_2\bar{E} + \bar{Q}_2 Q_1 Q_0 E$

$D_2 = Q_2 \oplus (Q_0 Q_1 E)$



$D_1 = Q_1\bar{Q}_0 + Q_1\bar{E} + \bar{Q}_1 Q_0 E$

$D_1 = Q_1 \oplus (Q_0 E)$



$D_0 = \bar{Q}_0 E + Q_0 \bar{E}$

$D_0 = Q_0 \oplus E$

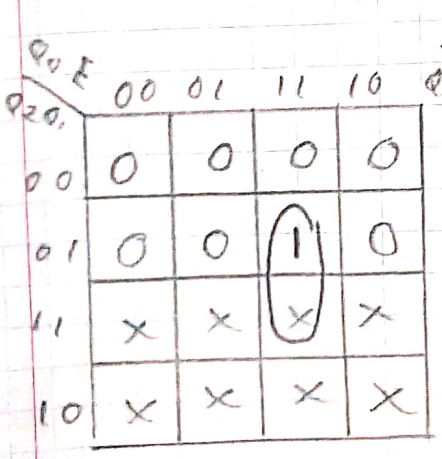
$\oplus \rightarrow$ XOR

$$D_i = Q_i \oplus E \prod_{j=0}^{i-1} Q_j$$ --- Formula generalizada para el contador con FF 'D.

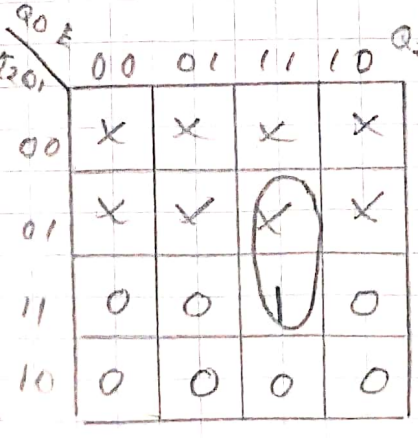
Se hace el análisis con FF 'JK

Edo_Act	E	Edo_sig	Salida	J_2	K_2	J_1	K_1	J_0	K_0
$Q_2 Q_1 Q_0$		$Q_2^+ Q_1^+ Q_0^+$							
0 0 0	1	0 0 1	0 0 0	0	X	0	X	1	X
0 0 1	1	0 1 0	0 0 1	0	X	1	X	X	1
0 1 0	1	0 1 1	0 1 0	0	X	X	0	1	X
0 1 1	1	1 0 0	0 1 1	1	X	X	1	X	1
1 0 0	1	1 0 1	1 0 0	X	0	0	X	1	X
1 0 1	1	1 1 0	1 0 1	X	0	1	X	X	1
1 1 0	1	1 1 1	1 1 0	X	0	X	0	1	X
1 1 1	1	0 0 0	1 1 1	X	1	X	1	X	1

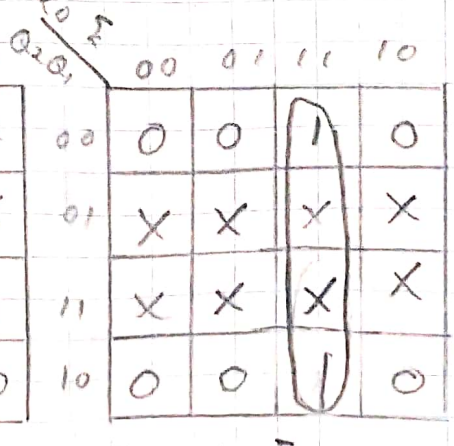
Edo_Act	E	Edo_Sig	Salida	J_2	K_2	J_1	K_1	J_0	K_0
0 0 0	0	0 0 0	0 0 0	0	X	0	X	0	X
0 0 1	0	0 0 1	0 0 1	0	X	0	X	X	0
0 1 0	0	0 1 0	0 1 0	0	X	X	0	0	X
0 1 1	0	0 1 1	0 1 1	0	X	X	0	X	0
1 0 0	0	1 0 0	1 0 0	X	0	0	X	0	X
1 0 1	0	1 0 1	1 0 1	X	0	0	X	X	0
1 1 0	0	1 1 0	1 1 0	X	0	X	0	0	X
1 1 1	0	1 1 1	1 1 1	X	0	X	0	X	0



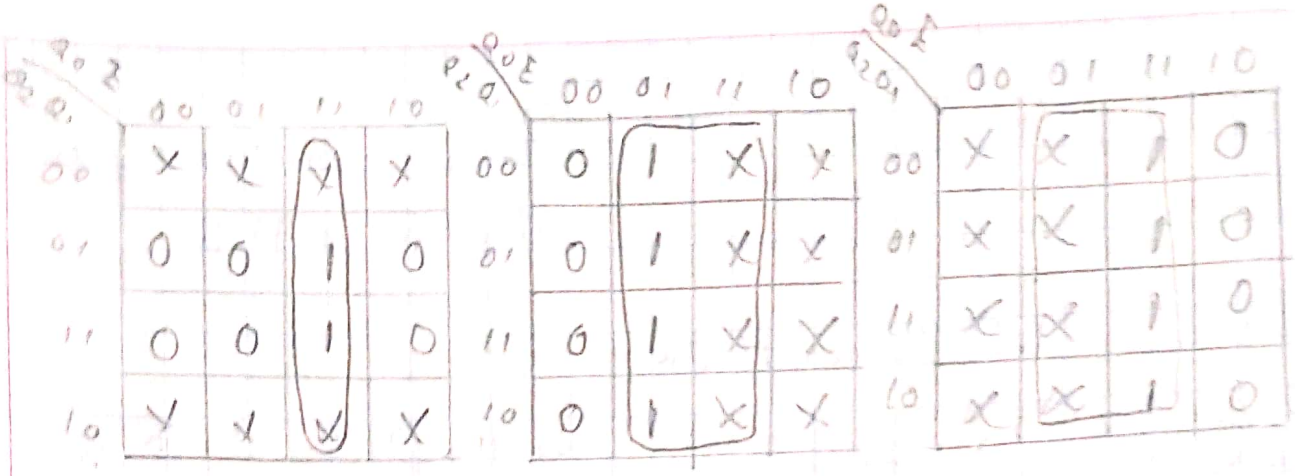
$J_2 = Q_1 Q_0 E$



$K_2 = Q_1 Q_0 E$



$J_1 = Q_0 E$



$K_1 = Q_0 E$ $\quad J_0 = E$ $\quad K_0 = E$

$$J_i = Q_i E \prod_{j=0}^{i-1} Q_j$$

$$K_i = Q_i E \prod_{j=0}^{i-1} Q_j$$