Pauta Tarea 5

Consideraremos dos modulos:

- Módulo 1: Contador de lanzamientos
- Módulo 2: Contador de lanzamientos iguales a 2

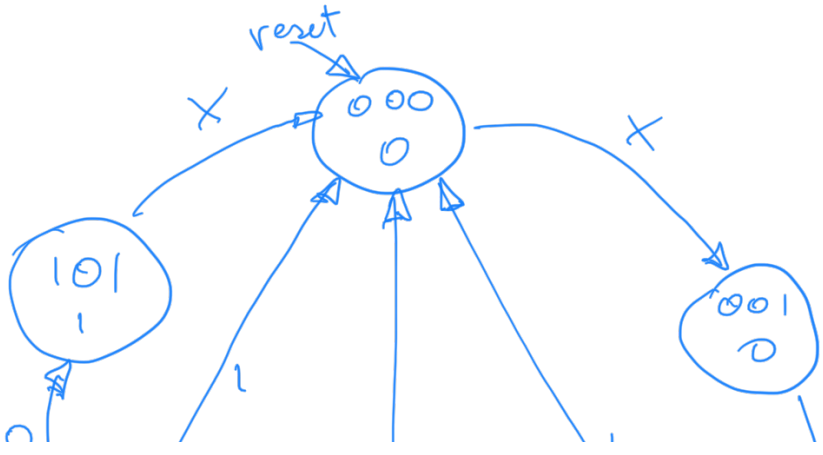
Módulo 1:

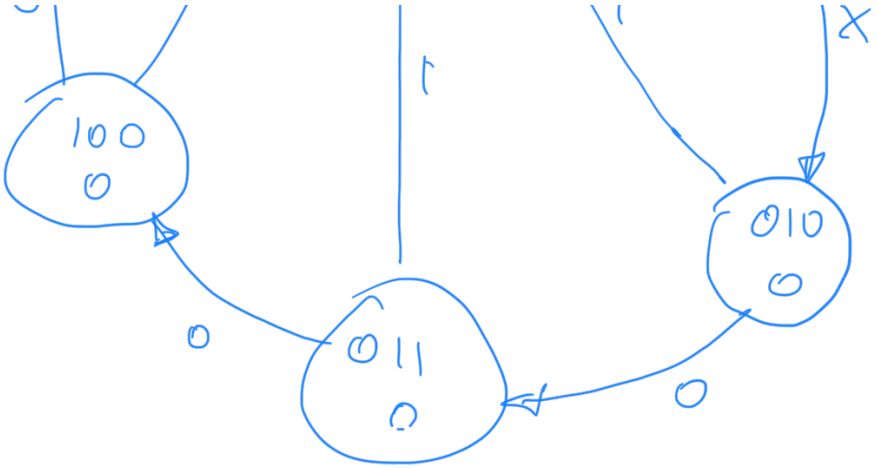
Entradas: F (se llegó a 2 lanzamientos iguales a 2)

Salidas: S (se llegó al quinto lanzamiento)

Estados: Número de lanzamientos

Solución de Moore





$Q_2Q_1Q_0$	F	Q_2^{t+1}	Q_1^{t+1}	Q_0^{t+1}
0 0 0	0	0	0	1
0 0 0	1	0	0	1
0 0 1	0	0	1	0
0 0 1	1	0	1	0
0 1 0	0	0	1	1
0 1 0	1	0	0	0
0 1 1	0	1	0	0
0 1 1	1	0	0	0
1 0 0	0	1	0	1
1 0 0	1	0	0	0
1 0 1	0	0	0	0
1 0 1	1	0	0	0

$Q_2Q_1Q_0$	S
0 0 0	0
0 0 1	0
0 1 0	0
0 1 1	0
1 0 0	0
1 0 1	1

Q_2Q_1 \ Q_0F	00	01	11	10
00	0	0	0	0
01	0	0	0	1
11	X	X	X	X
10	1	0	0	0

$$Q_2^{t+1} = Q_2^t \overline{Q_0^t F} + Q_1^t Q_0^t \overline{F}$$

Q_2Q_1 \ Q_0	0	1
00	0	0
01	0	0
11	X	X
10	0	1

$$S = Q_2^t Q_0^t$$

Q_2Q_1 \ Q_0F	00	01	11	10

Q_2Q_1 \ Q_0F	00	01	11	10
00	0	0	1	1
01	1	0	0	0
11	X	X	X	X
10	0	0	0	0

$$Q_1^{t+1} = Q_1^t \overline{Q_0^t}\,\overline{F} + \overline{Q_2^t}\,\overline{Q_1^t}\,Q_0^t$$

Q_2Q_1 \ Q_0F	00	01	11	10
00	1	1	0	0
01	1	0	0	0
11	X	X	X	X
10	1	0	0	0

$$Q_0^{t+1} = \overline{Q_0^t}\,\overline{F} + \overline{Q_2^t}\,\overline{Q_1^t}\,\overline{Q_0^t}$$

Módulo 2

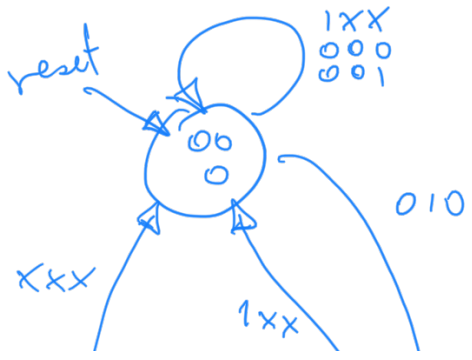
Entradas: Datos $(D_1 D_0)$ 00, 01, 10
S (se llega al quinto lanzamiento)

Salidas: F (se lanzado dos veces el número 2)

Estados: Número de lanzamientos igual a 2

Solución de Moore

Entradas
S D_1 D_0





S	D_1	D_0	P_1	P_0	P_1^{t+1}	P_0^{t+1}
0	0	0	0	0	0	0
0	0	0	0	1	0	1
0	0	0	1	0	0	0
0	0	1	0	0	0	0
0	0	1	0	1	0	1
0	0	1	1	0	0	0
0	1	0	0	0	0	1
0	1	0	0	1	1	0
0	1	0	1	0	0	0
1	0	0	0	0	0	0
1	0	0	0	1	0	0
1	0	0	1	0	0	0
1	0	1	0	0	0	0
1	0	1	0	1	0	0
1	0	1	1	0	0	0
1	1	0	0	0	0	0
1	1	0	0	1	0	0
1	1	0	1	0	0	0

P_1	P_0	F
0	0	0
0	1	0
1	0	1

$$F = P_1$$

$S = 0$

D_1D_0 \ P_1P_0	00	01	11	10
00	0	0	X	0
01	0	0	X	0
11	X	X	X	X
10	0	1	X	0

$S = 1$

D_1D_0 \ P_1P_0	00	01	11	10
00	0	0	X	0
01	0	0	X	0
11	X	X	X	X
10	0	0	X	0

$$P_1^{t+1} = \bar{S} D_1 P_0$$

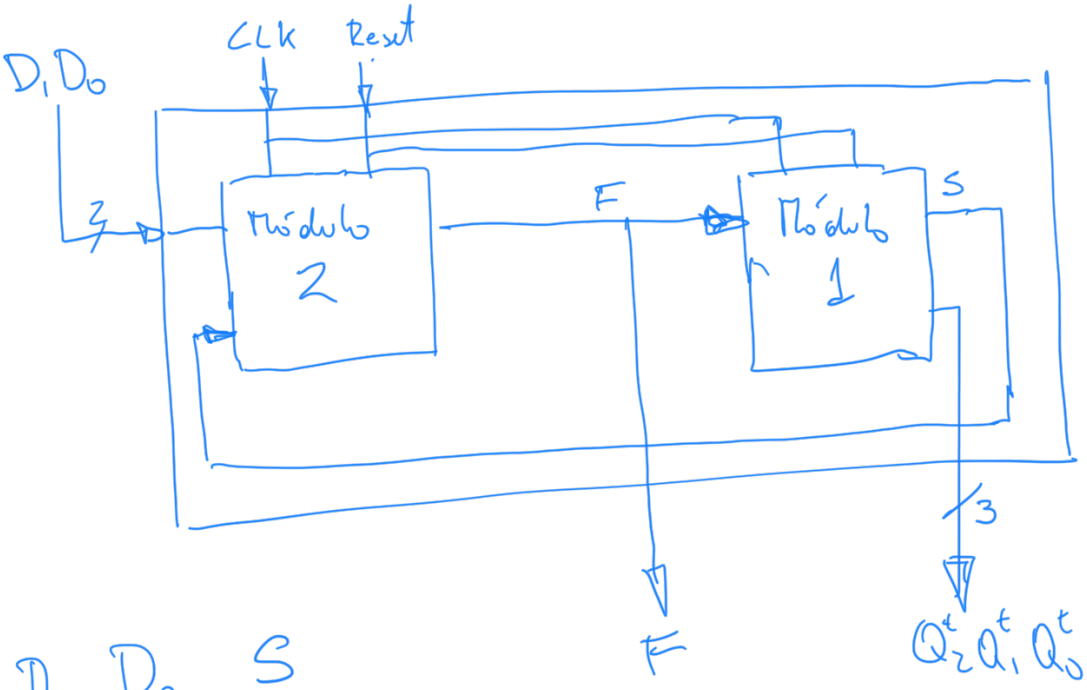
S=0

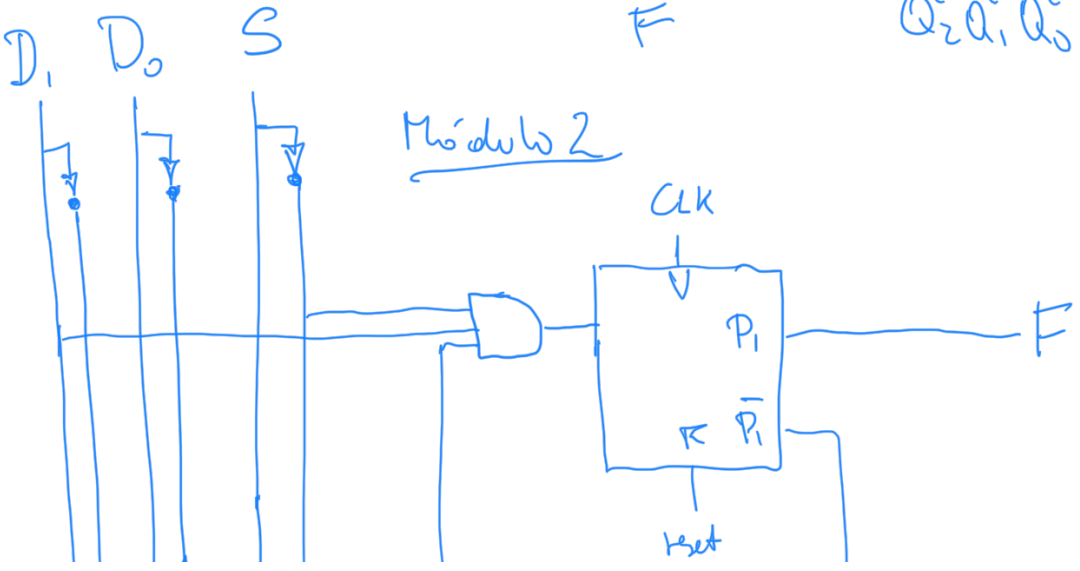
D_1D_0 \ P_1P_0	00	01	11	10
00	0	X	X	0
01	0	1	X	0
11	X	X	X	X
10	1	0	X	0

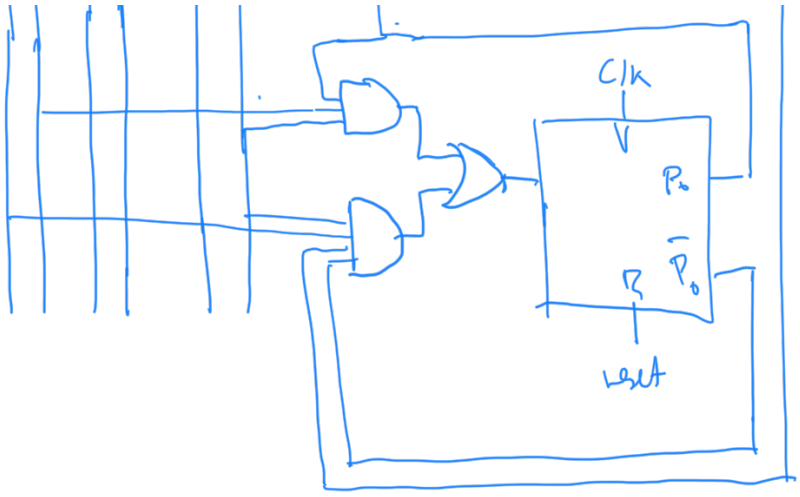
S=1

D_1D_0 \ P_1P_0	00	01	11	10
00	0	0	X	0
01	0	0	X	0
11	X	X	X	X
10	0	0	X	0

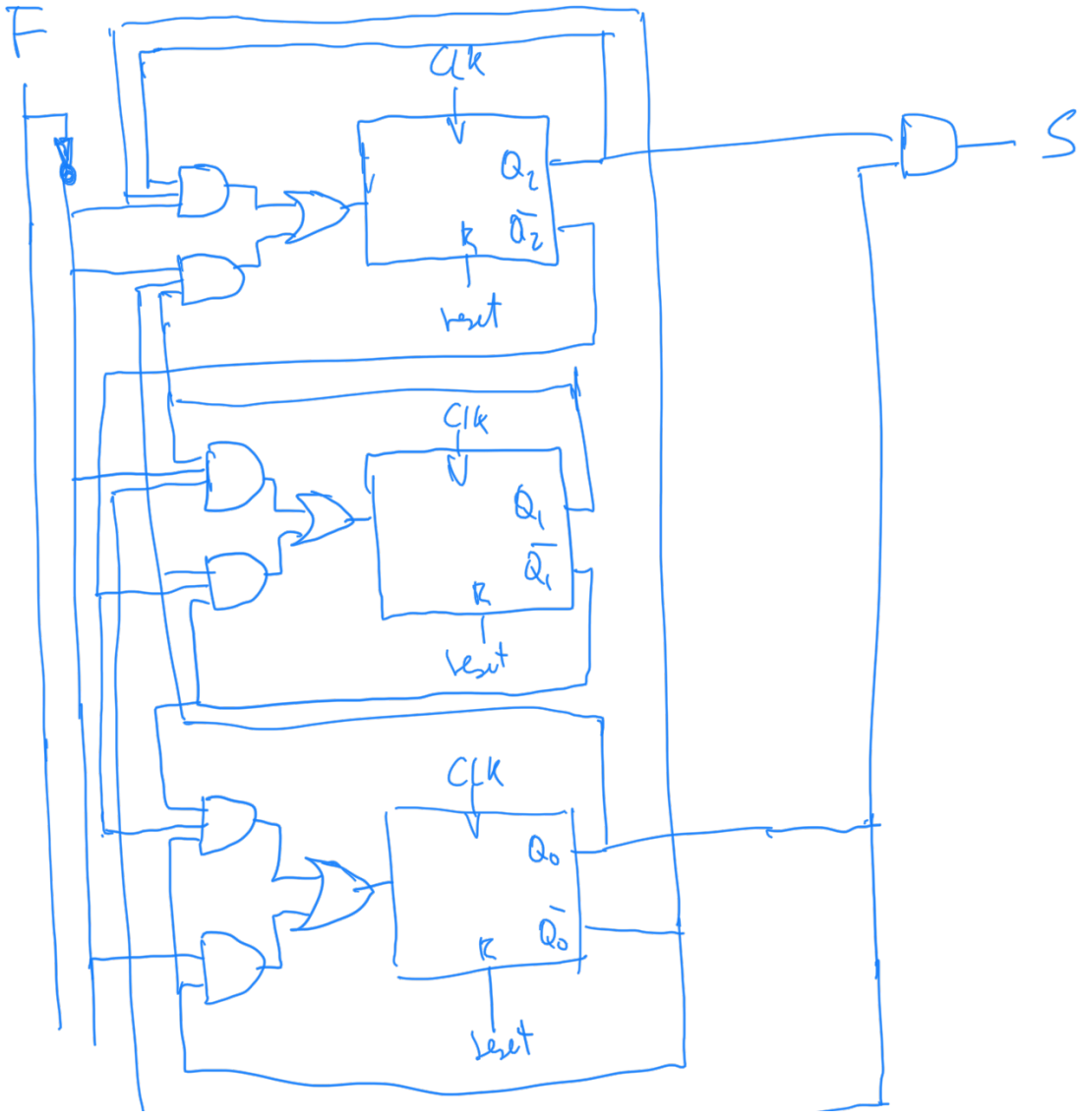
$$P_0^{t+1} = \bar{S}\,\bar{D_1}\,P_0 + \bar{S}\,D_1\,\bar{P_1}\,\bar{P_0}$$






Clk
P_0
$\bar{P}_0$
R
Reset

Moduł 1


F
Clk
Q_2
$\bar{Q}_2$
R
Reset
Clk
Q_1
$\bar{Q}_1$
R
Reset
Clk
Q_0
$\bar{Q}_0$
R
Reset
S

