

SOLUCIÓN

Ejercicio 1

1	2	3	4	5	6	7
P1	P2	m3	P3	m2	m1	m0

Verificaciones de Hamming a la llegada:

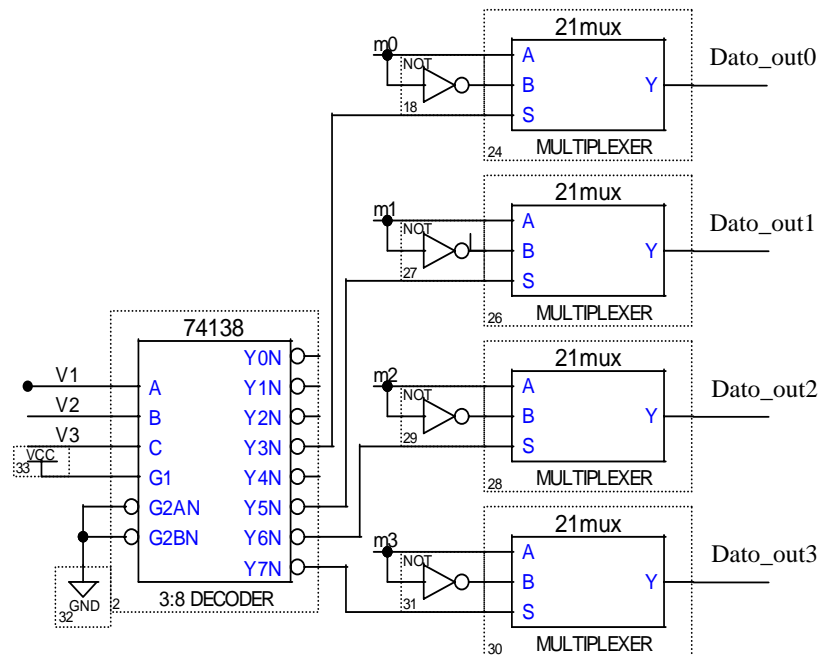
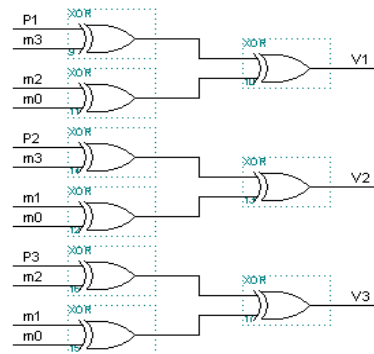
$$V1 = P1 \text{ xor } m3 \text{ xor } m2 \text{ xor } m0$$

$$V2 = P2 \text{ xor } m3 \text{ xor } m1 \text{ xor } m0$$

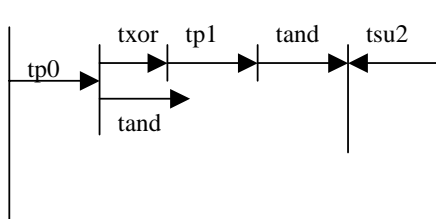
$$V3 = P3 \text{ xor } m2 \text{ xor } m1 \text{ xor } m0$$

Posición del error

V3	V2	V1	
0	0	0	0
0	0	1	1
0	1	0	2
0	1	1	3
1	0	0	4
1	0	1	5
1	1	0	6
1	1	1	7



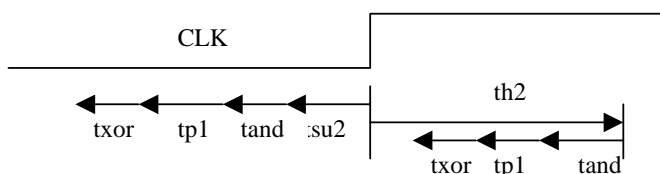
Ejercicio 2



$$T1 > tp0_{\max} + tand_{\max} + tsu2$$

$$T2 > tp0_{\max} + txor_{\max} + tp1_{\max} + tand_{\max} + tsu2$$

Dado que $T1 < T2 \rightarrow F_{\max} = 1/T2_{\min}$.

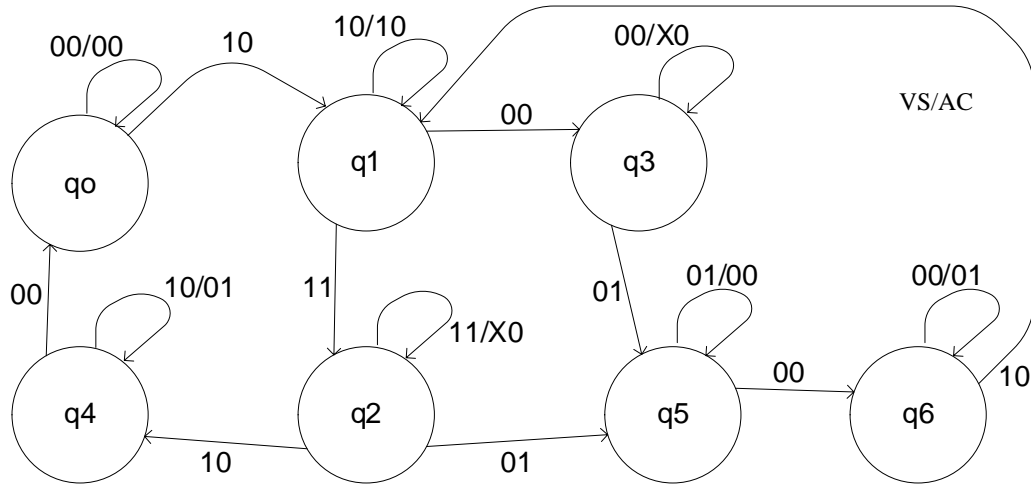


$$T \text{ antes CLK} > tsu2 + txor_{\max} + tp1_{\max} + tand_{\max}$$

$$T \text{ después CLK} > th2 - (txor_{\min} + tp1_{\min} + tand_{\min})$$

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PROBLEMA 1



y1y0VS	00	01	11	10	00	01	11	10
Q0	q0	--	--	q1	00			
Q1	q3	--	q2	q1				10
Q2	--	q5	q2	q4			X0	
Q3	q3	q5	--	--	X0			
Q4	q0	--	--	q4				01
Q5	q6	q5	--	--		00		
Q6	q6	--	--	q1	01			

1	0-3					
2	1-4	1-4				
3	✓	✓	✓			
4	1-4	1-4	✓	0-3		
5	0-6	3-6	✓	3-6	0-6	
6	1-4	3-6	1-4	3-6	0-6	✓
	0	1	2	3	4	5

Compatibles:

(0-3) (1-3)
(2-3) (2-4)
(2-5) (5-6)
(3-4) → (0-3)
(0-1) → (0-3)

A : 0, 1, 3

B: 2, 4

C: 5, 6

	00	01	11	10	00	01	11	10
00 A	A	C	B	A	00	00	10	10
01 B	A	C A	B	B	0X	00	X0	01
10 C	C	C	--	A	01	00	XX	XX

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PROBLEMA 2

SECUENCIA

MODULE: Examen
INPUTS: Ch0, Ch1, Ch2, Ch3
OUTPUTS: D_Out, Start
MEMORY: MCh0, MCh1, MCh2, MCh3, A, D, Cont

0. MCh0 \leftarrow Ch0; MCh1 \leftarrow Ch1; MCh2 \leftarrow Ch2; MCh3 \leftarrow Ch3
1. MCh0 \leftarrow Ch0; MCh1 \leftarrow Ch1; MCh2 \leftarrow Ch2; MCh3 \leftarrow Ch3
Start = Cambio
D \leftarrow /Comp(MCh1, Ch1) + /Comp(MCh3, Ch3)
D_Out = /Comp(MCh2, Ch2) + /Comp(MCh3, Ch3)
A \leftarrow Ch0. /Comp(MCh0, Ch0) + Ch1. /Comp(MCh1, Ch1) + Ch2. /Comp(MCh2, Ch2) + Ch3. /Comp(MCh3, Ch3)
 \rightarrow (/Cambio, Cambio) / (1,2)
2. D_Out = D
Cont \leftarrow 0
3. D_Out = A[7]
A \leftarrow A[6..0], A[7]
Cont \leftarrow INC(Cont)
 \rightarrow (Cont=111, / (Cont=111)) / (1,3)

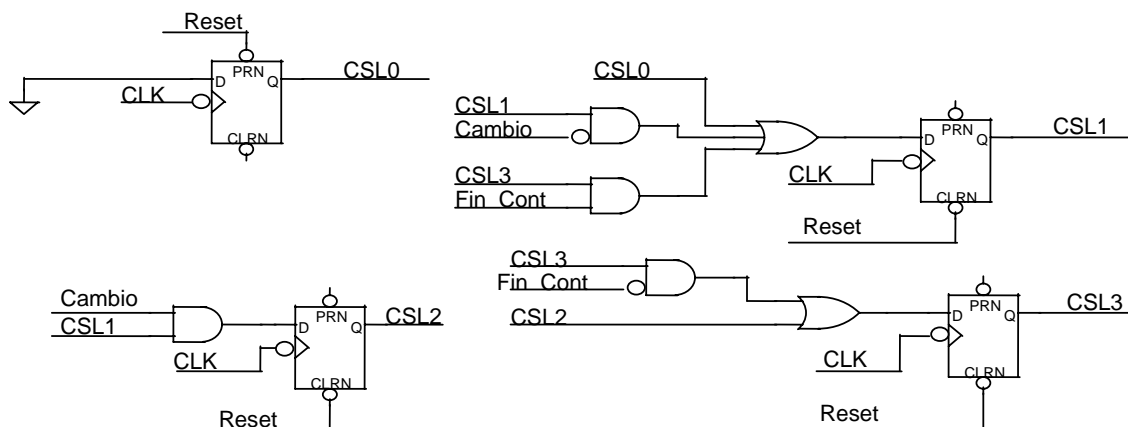
END SEQUENCE

CONTROLRESET(0)

Cambio = /Comp(MCh0, Ch0) + /Comp(MCh1, Ch1) + /Comp(MCh2, Ch2) + /Comp(MCh3, Ch3)

END

BLOQUE DE CONTROL



SOLUCIÓN

BLOQUE DE DATOS

