

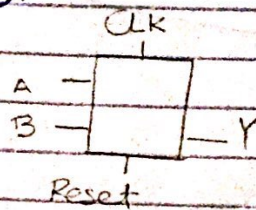
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Laboratorio #6

Ejercicio 01

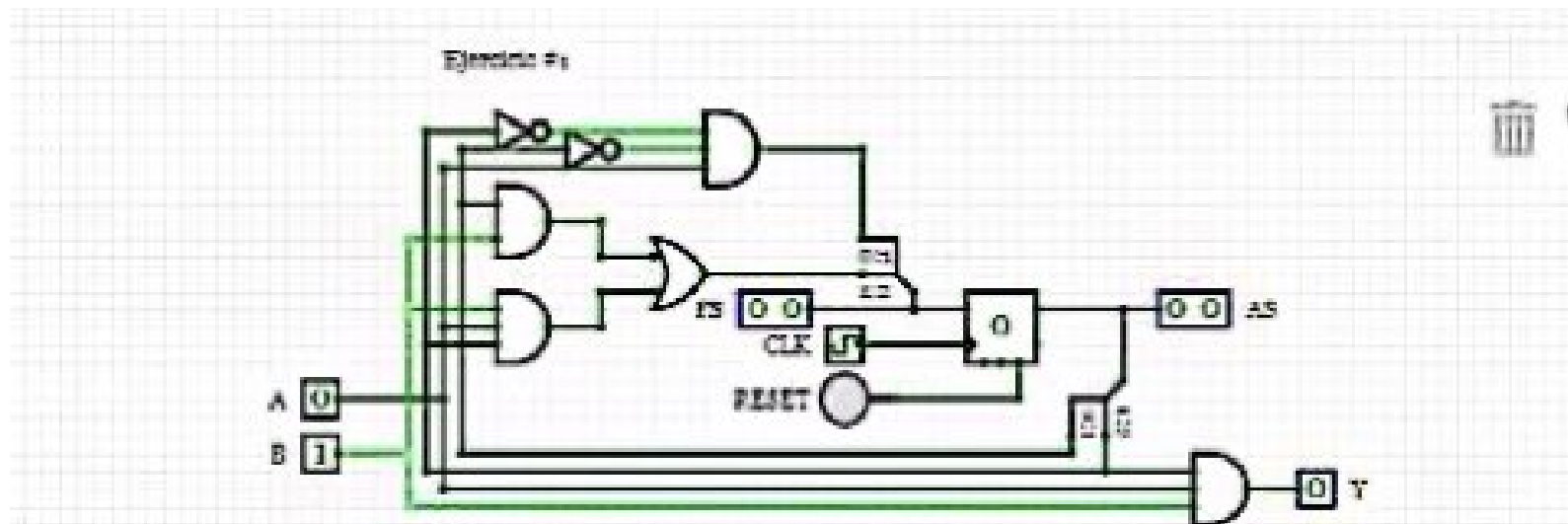
Caja
Negra



S	A	B	S'	Y
S0	1	X	S1	0
S0	0	X	S0	0
S1	X	0	S0	0
S1	X	1	S2	0
S2	1	0	S0	0
S2	1	0	S0	0
S2	1	1	S0	0
			S2	1

S	S ₀	S ₁
S ₀	0	0
S ₁	0	1
S ₂	1	0

S ₀	S ₁	A	B	S ₀ '	S ₁ '	Y
0	0	1	X	0	1	0
0	0	0	X	0	0	0
0	1	X	0	0	0	0
0	1	X	1	1	0	0
1	0	0	0	0	0	0
1	0	0	1	0	0	0
1	0	1	0	0	0	0
1	0	1	1	1	0	1



Funci...	Inputs	Outputs	True	False	DC	PI	Gates
S0'-Y	4	3	3, 2, 1	13, 1...	0, 0, 0	4	Not mapped

S0	S1	A	B	=>	S0'	S1'	Y
0	1	X	1		1		
1	0	1	1		1		
0	0	1	X			1	
1	0	1	1				1

Entered by truthtable:

$$S0' = S0' S1 A' B + S0' S1 A B + S0 S1' A B;$$

$$S1' = S0' S1' A B' + S0' S1' A B;$$

$$Y = S0 S1' A B;$$

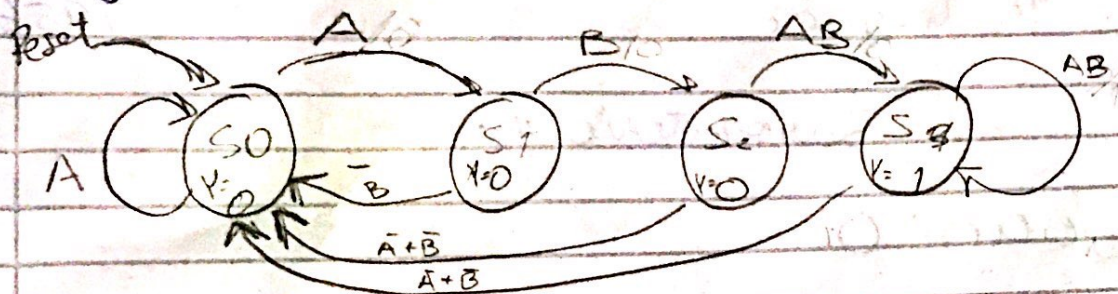
Minimized:

$$S0' = S0' S1 B + S0 S1' A B;$$

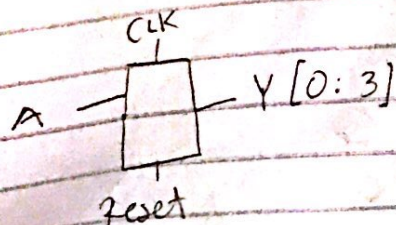
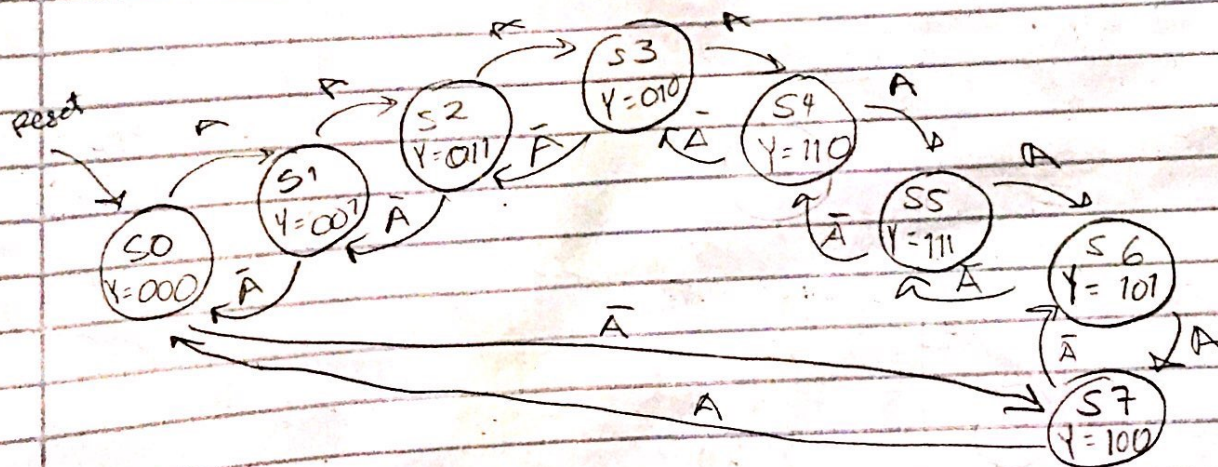
$$S1' = S0' S1' A ;$$

$$Y = S0 S1' A B;$$

Ejercicio 02

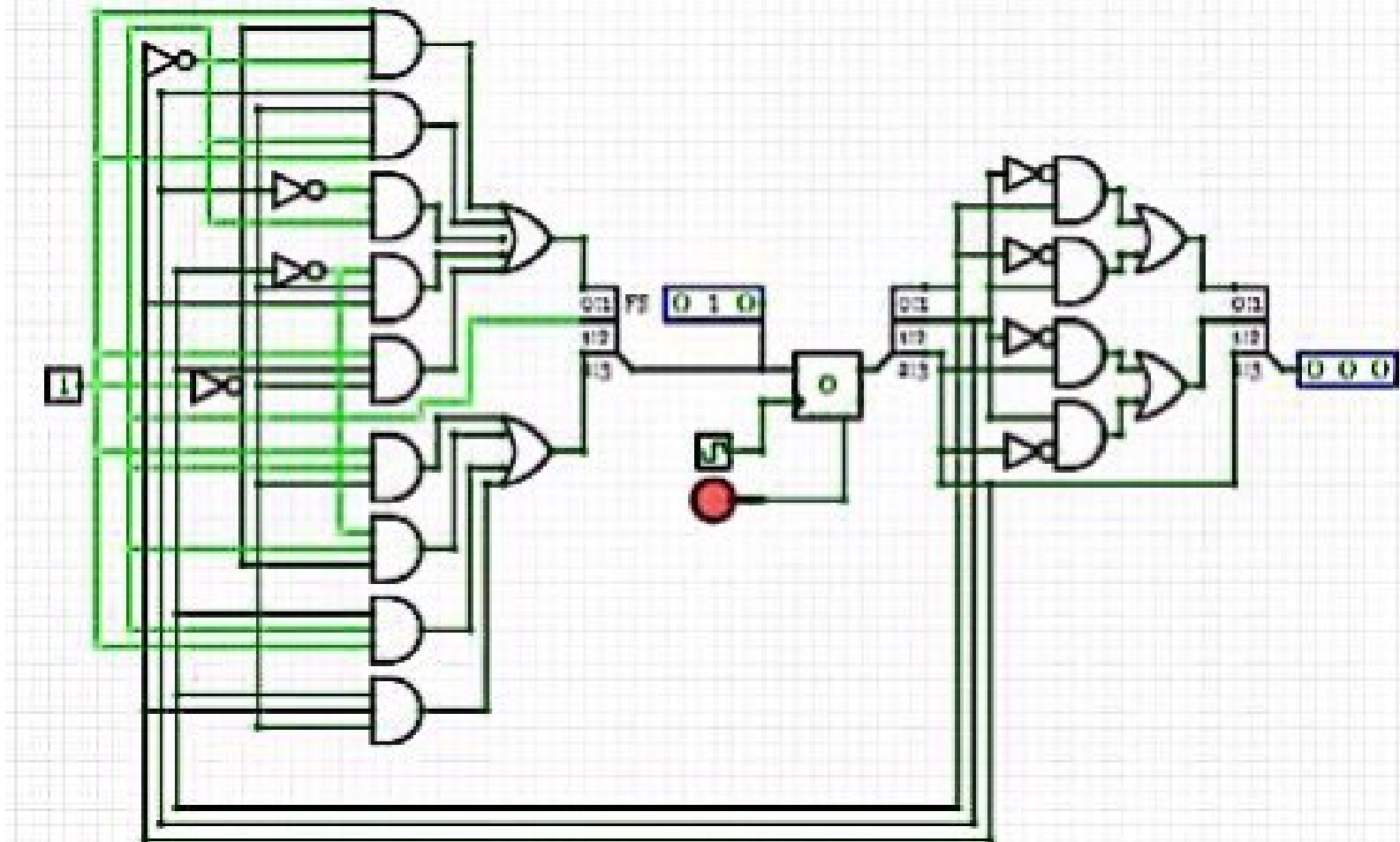


Ejercicio 03



Current	Next + Output	Input	Outputs		
S		A	Y ₀	Y ₁	Y ₂
S ₀	S ₀ '	1	0	0	0
S ₁	S ₁ '	1	1	0	0
S ₂	S ₂ '	1	1	1	0
S ₄	S ₄ '	1	0	1	0
S ₅	S ₅ '	1	0	1	1
S ₆	S ₆ '	1	1	1	1
S ₇	S ₇ '	1	1	0	1

Ejercicio #3



Funci...	Inputs	Outputs	True	False	DC	PI	Gates	
S0'-Y	4	3	3, 2, 1	13, 1...	0, 0, 0	4	Not mapped	
S0'-S2'	4	3	8, 8, 8	8, 8, 8	0, 0, 0	10	Not mapped	

S0	S1	S2	A	=>	S0'	S1'	S2'	
X	0	X	X		1			Entered by truthtable:
0	1	X	1			1		$S0' = S0' S1' S2' A' + S0' S1' S2' A + S0' S1' S2 A' + S0' S1' S2 A$
1	0	X	1			1		$+ S0 S1' S2' A' + S0 S1' S2' A + S0 S1' S2 A' + S0 S1' S2 A;$
1	1	X	0			1		$S1' = S0' S1' S2' A' + S0' S1' S2 A' + S0' S1 S2' A + S0' S1 S2 A +$
0	0	X	0			1		$S0 S1' S2' A + S0 S1' S2 A + S0 S1 S2' A' + S0 S1 S2 A';$
1	1	0	1				1	$S2' = S0' S1' S2' A' + S0' S1' S2 A + S0' S1 S2 A' + S0' S1 S2 A +$
0	0	0	0				1	$S0 S1' S2 A' + S0 S1' S2 A + S0 S1 S2' A + S0 S1 S2 A';$
0	1	1	X				1	Minimized:
X	0	1	1				1	$S0' = S1' ;$
1	X	1	0				1	$S1' = S0' S1 A + S0 S1' A + S0 S1 A' + S0' S1' A';$
								$S2' = S0 S1 S2' A + S0' S1' S2' A' + S0' S1 S2 + S1' S2 A + S0 S2$
								$A';$

Functi...	Inputs	Outputs	True	False	DC	PI	Gates	
S0'-S2'	4	3	8, 8, 8	8, 8, 8	0, 0, 0	10	Not mapped	
Y0-Y2	3	3	4, 4, 4	4, 4, 4	0, 0, 0	5	Not mapped	
S0	S1	S2	=>	Y0	Y1	Y2	Entered by truthtable:	

Ejercicio 04

Non-Blocking Assignments:

2+ variables se ejecutan las variables en paralelo

Non-Blocking

- Ejecución de código de variables en simultáneo. (compilador)
- Mejor Para lógica secuencial

Blocking

- Una línea de código se ejecuta (interpretador)
- mejor para lógica combinatorial

