

EJERCICIO 1

Laboratorio #2

Ejercicio 1

$$① Y = (\bar{A} \cdot B) + (A \cdot \bar{B})$$

\bar{A}	B	C
1	0	0
1	1	1
0	0	0
0	1	0

A	\bar{B}	D
0	1	0
0	0	0
1	1	1
1	0	0

C + D	Y
0 0	0
1 0	1
0 1	1
0 0	0

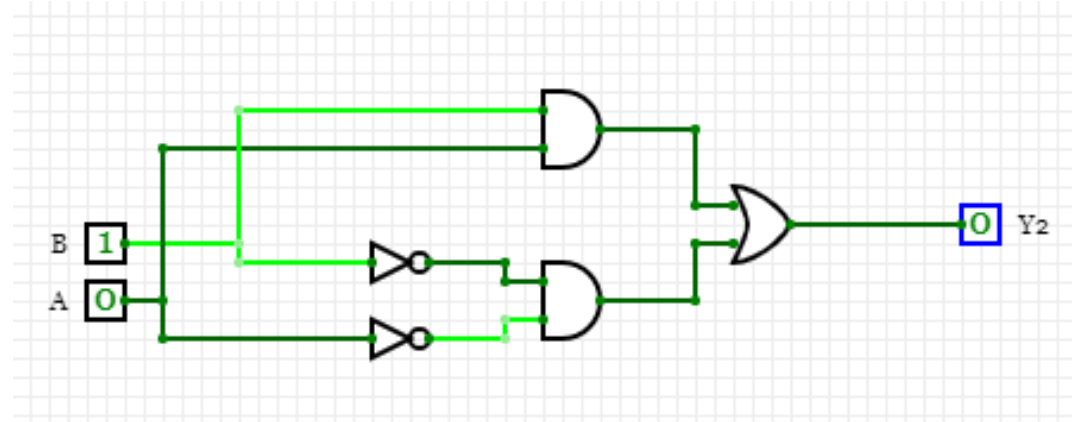
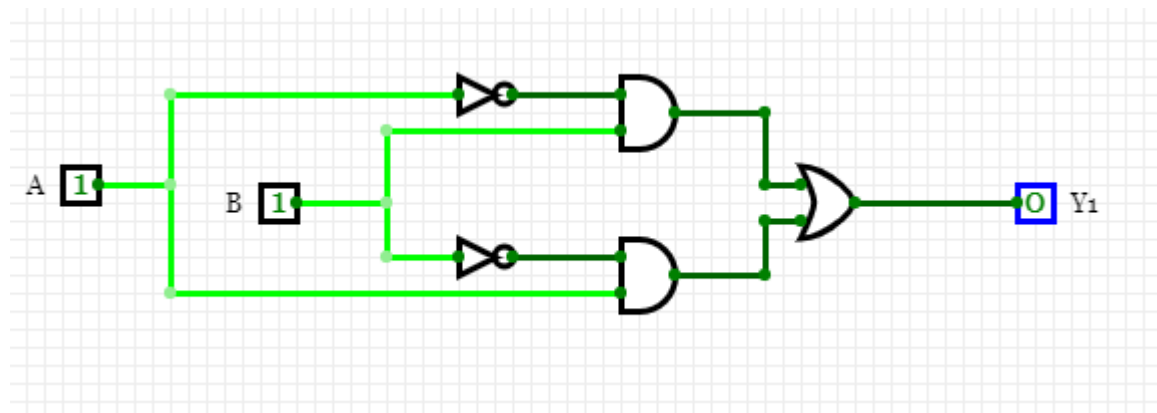
$$② Y = (\bar{A} \cdot \bar{B}) + (A \cdot B)$$

\bar{A}	\bar{B}	C
1	1	1
1	0	0
0	1	0
0	0	0

A	B	D
0	0	0
0	1	0
1	0	0
1	1	1

C + D	Y
1 0	0
0 0	0
0 0	0
0 1	0

EJERCICIO 2



EJERCICIO 3

Ejercicio #3

① Una compuerta de negación

② Si es posible

$$V_{IL} = 0 - 2.6V$$

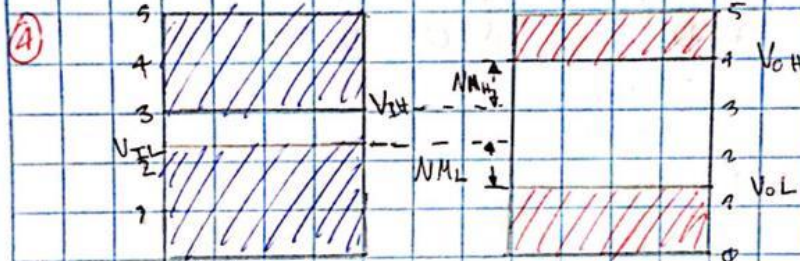
$$V_{OL} = 0 - 1.5V$$

$$V_{IH} = 3 - 5V$$

$$V_{OH} = 4 - 5V$$

$$③ N_{MH} = V_{OH} - V_{IH} = 4 - 3 = 1V$$

$$N_{ML} = V_{IL} - V_{OL} = 2.6 - 1.5 = 1.1V$$



Ejercicio #4

$$Y_1 = (A \cdot B) + (C + D)'$$

$$Y_2 = (C + D)' \oplus (E \cdot F)'$$

Ejercicio #5

$$Y = \left(\underbrace{[A \cdot C \cdot D]}_{(1)} \oplus \underbrace{[B']}_{(2)} \right) \oplus \left(\underbrace{([A \cdot C \cdot D] \oplus [B'])}_{(3)} + B' + \underbrace{[C + A]}_{(4)} \right)'$$

⑤

A	B	C	D	①	A	C	D	②	B'	③	④	B'	⑤
0	0	0	0	1	0	x	x	0	1		0	1	1
0	0	0	1	1	x	0	x	0	1		0	1	1
0	0	1	0	1	x	x	0	0	1		0	1	1
0	0	1	1	1	1	1	1	1	1		0	1	1
0	1	0	0	1					0		0	0	0
0	1	0	1		④	C	A	④	0		0	0	0
0	1	1	0		0	0	0		0		0	0	0
0	1	1	1		0	0	0		0		0	0	0
1	0	0	0		0	1	0	1	1		0	1	1
1	0	0	1		1	0	1		1		0	1	1
1	0	1	0		0	0	0		1		0	1	1
1	0	1	1		0	0	0		1		0	1	1
1	1	0	0		1	0	1		0		0	0	0
1	1	0	1		1	0	1		0		0	0	0
1	1	1	0		0	1	1		0		0	0	0
1	1	1	1		0	1	1		0		1	0	1
					1	1	1						
					0	1	1						
					0	1	1						
					1	1	1						
					1	1	1						

(3) (B) (4) (5)	(3) (4) (5)	Y	A	B	C	D	Y
1 1 0 1	1 1 1	1	0	0	0	0	1
1 1 0 1	1 1 1	1	0	0	0	1	1
1 1 1 1	1 1 1	1	0	0	1	0	1
1 1 1 1	1 1 1	1	0	0	1	1	1
0 0 0 0	0 0 1	1	0	1	0	0	1
0 0 0 0	0 0 1	1	0	1	0	1	1
0 0 1 1	0 1 0	0	0	1	1	0	0
0 0 1 1	0 1 0	0	0	1	1	1	0
1 1 1 1	1 1 1	1	1	0	0	0	1
1 1 1 1	1 1 1	1	1	0	0	1	1
1 1 1 1	1 1 1	1	1	0	1	0	1
1 1 1 1	1 1 1	1	1	0	1	1	1
0 0 1 1	0 1 0	0	1	1	0	0	0
0 0 1 1	0 1 0	0	1	1	0	1	0
0 0 1 1	0 1 0	0	1	1	1	0	0
1 0 1 1	1 1 1	1	1	1	1	1	1

$$R/Y = \left(([A \cdot C \cdot D] + [B']) \oplus (([A \cdot C \cdot D] + [B']) + B' + (C + A)) \right)'$$

EJERCICIO 6

