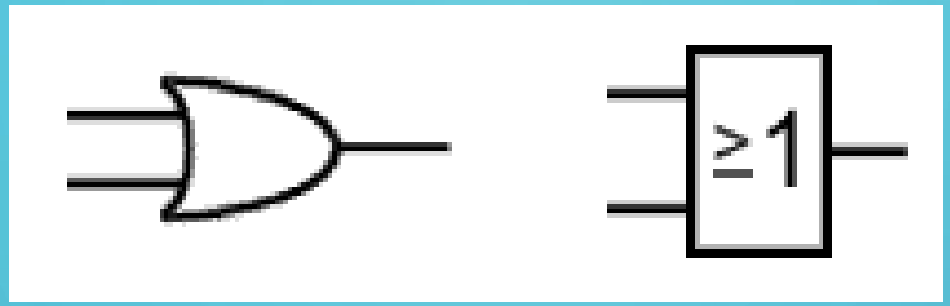
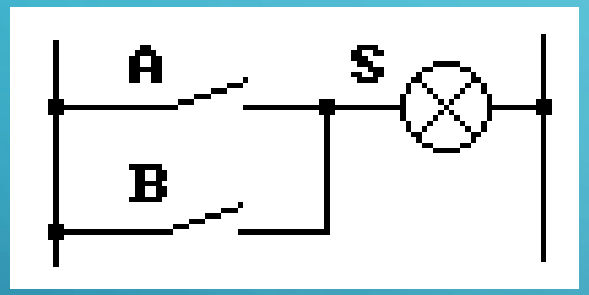
COMPUERTAS DIGITALES

OR





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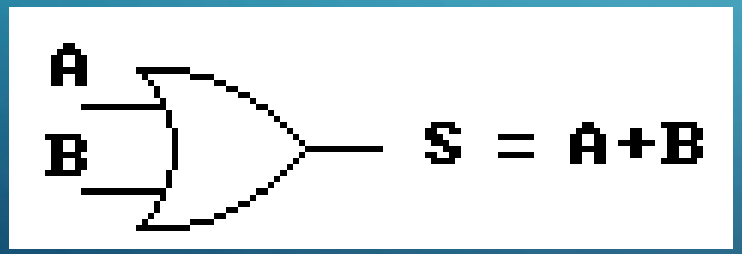
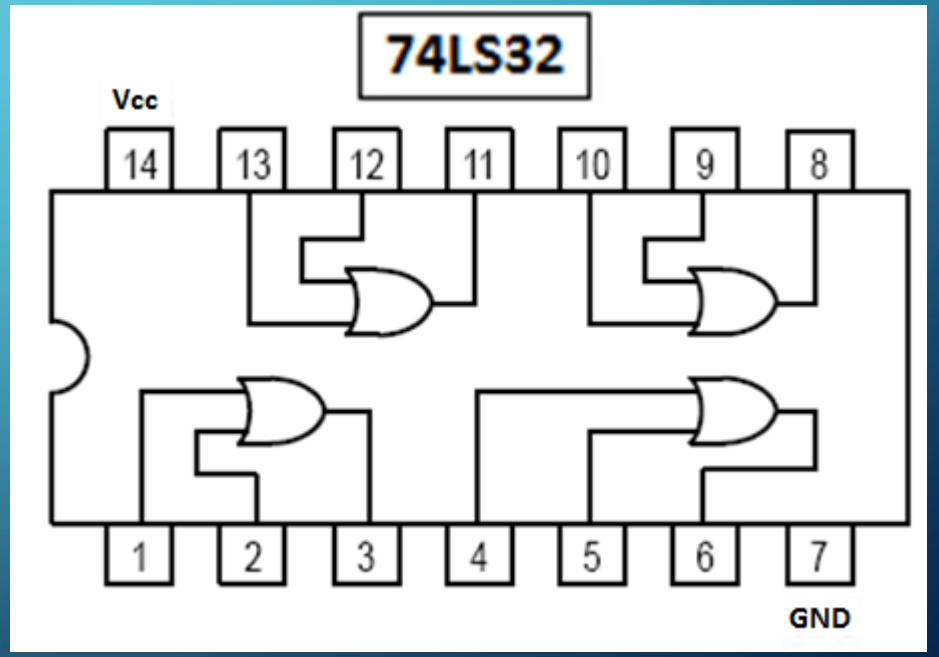
1	1	1





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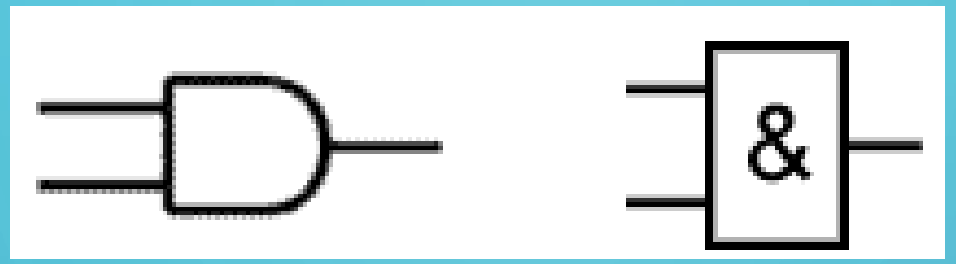

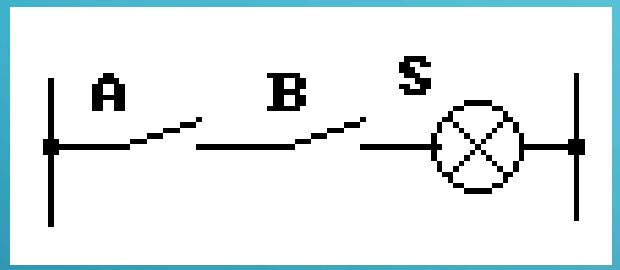

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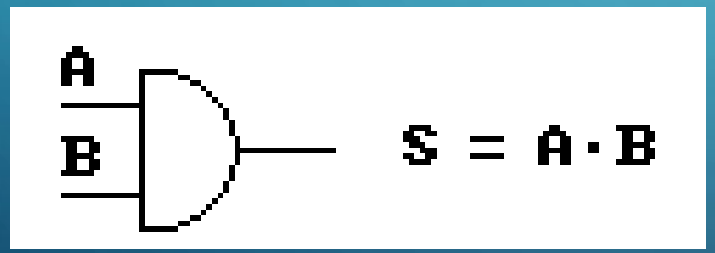

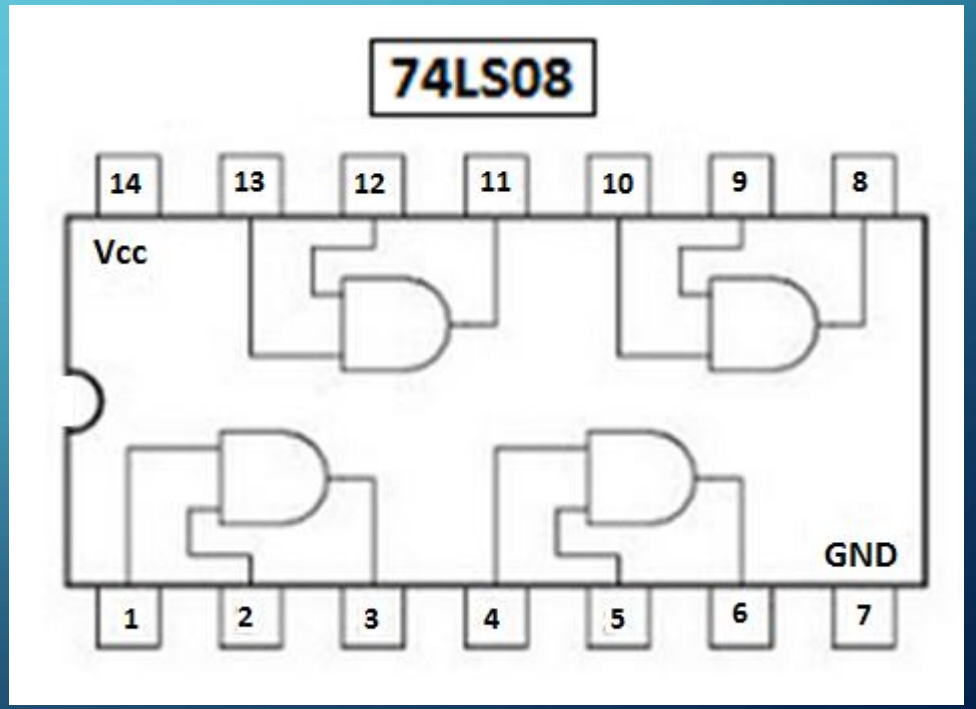

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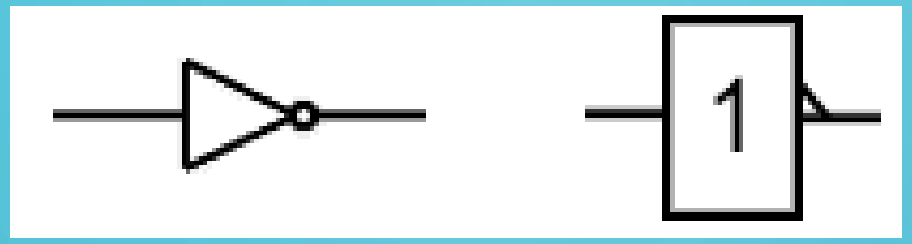
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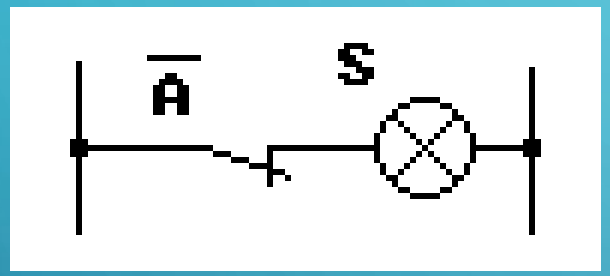
$\overline{A}$
S

A	S
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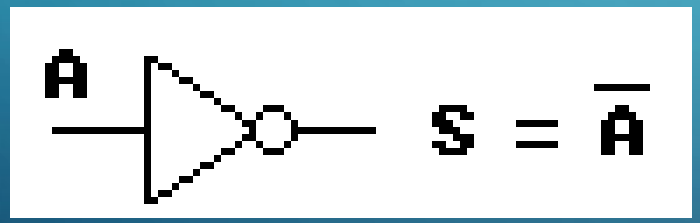
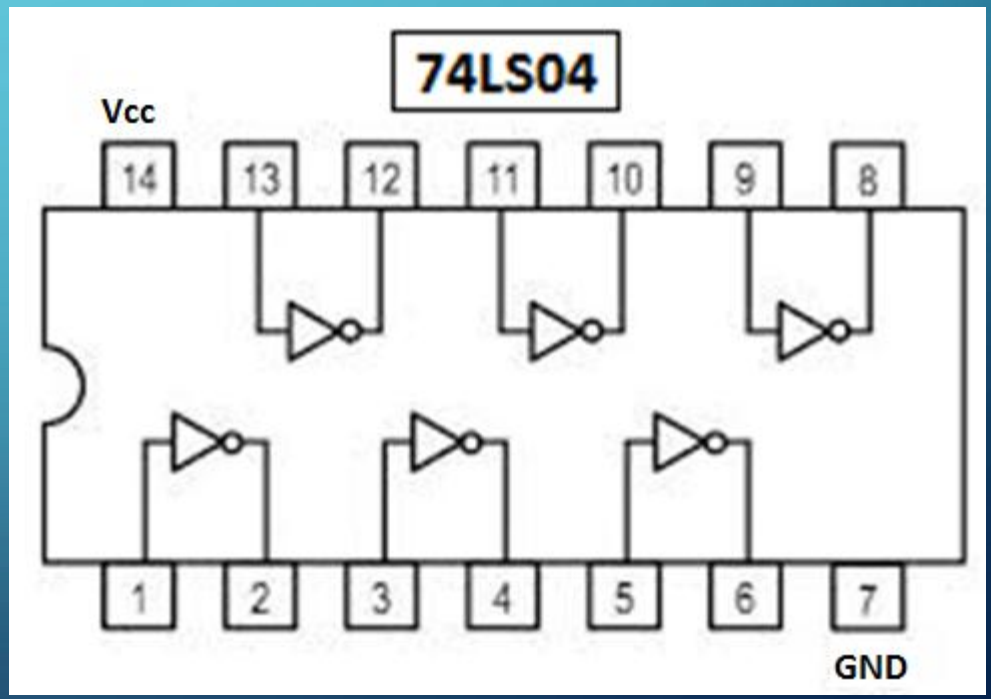
1	0


A
S = $\overline{A}$


74LS04
Vcc
14
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10
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8
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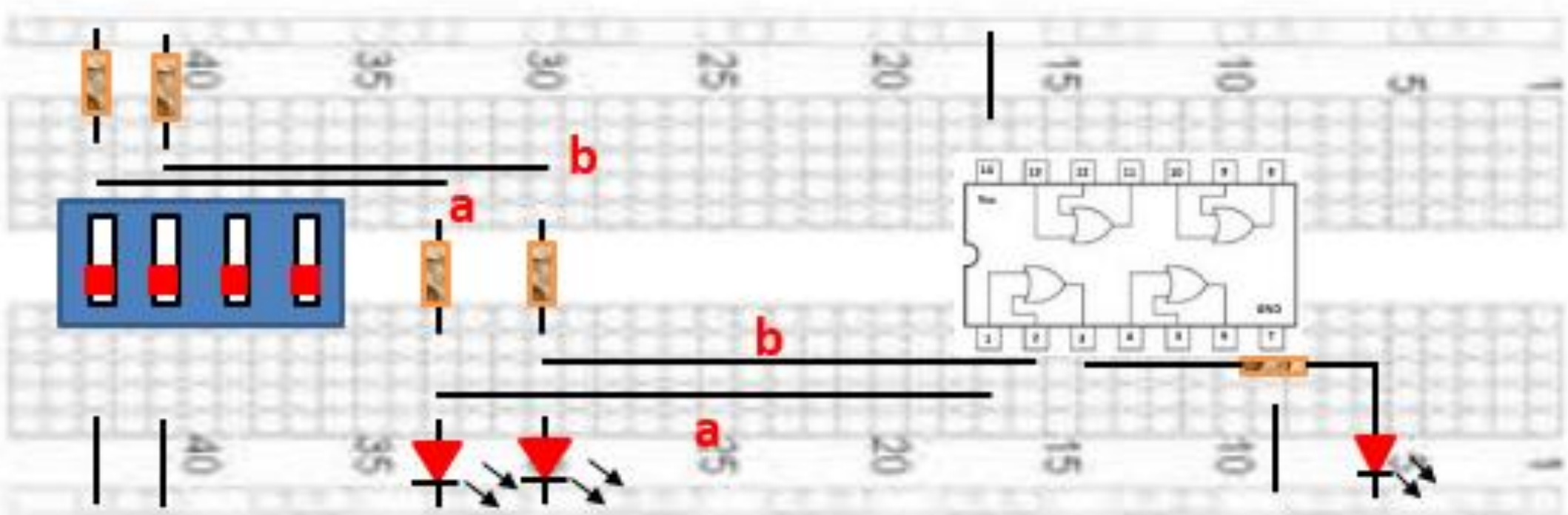
6
7
GND

Conexiones de la Compuerta con el DIP SWITCH



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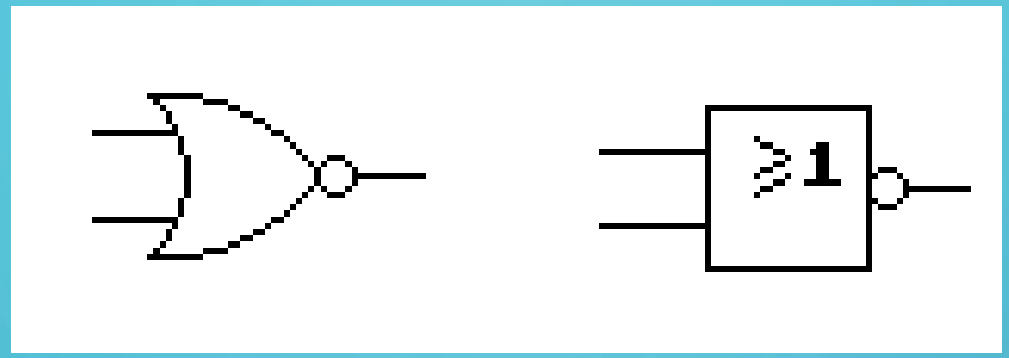

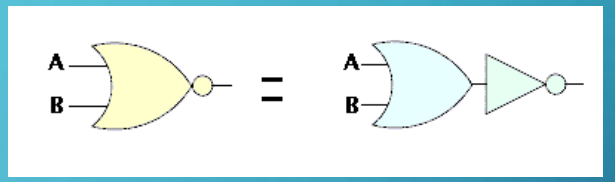

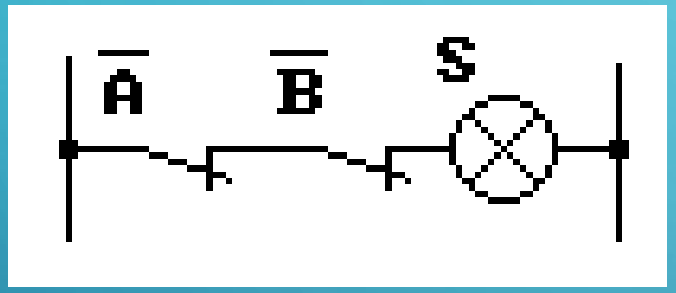

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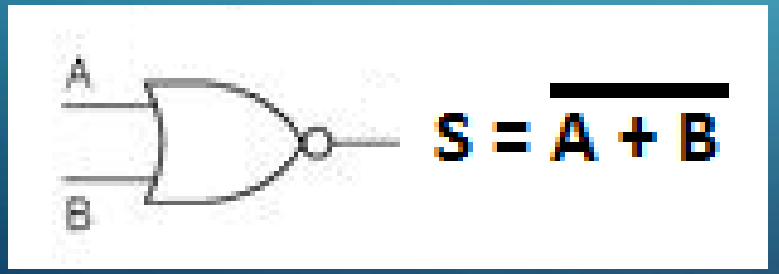
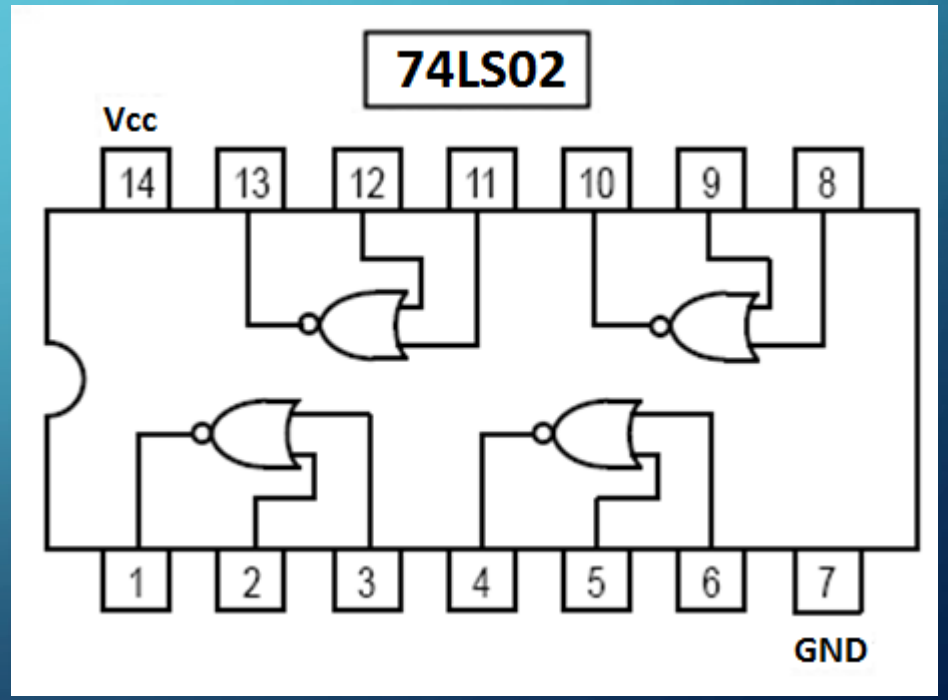
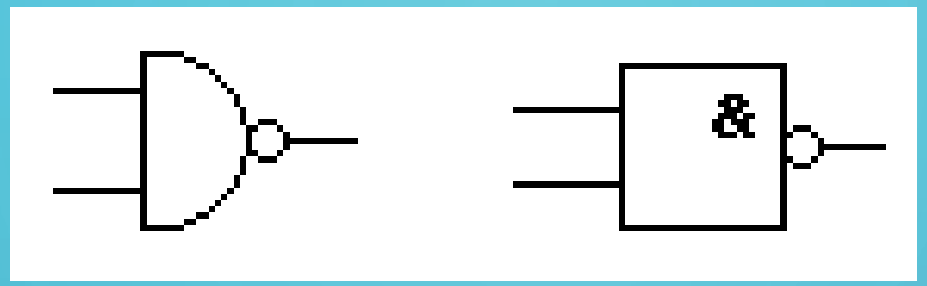
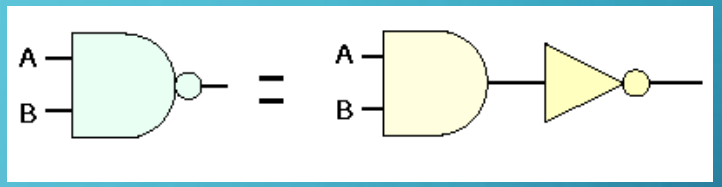
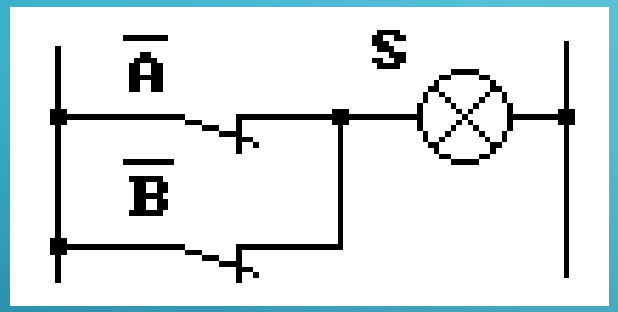




NAND







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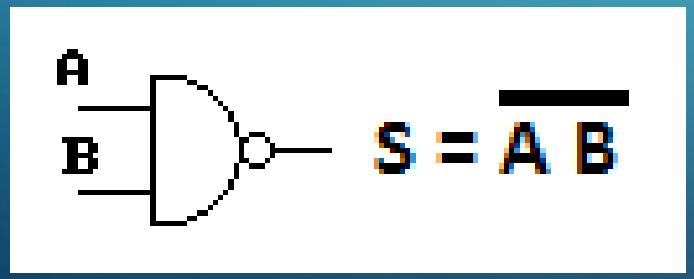
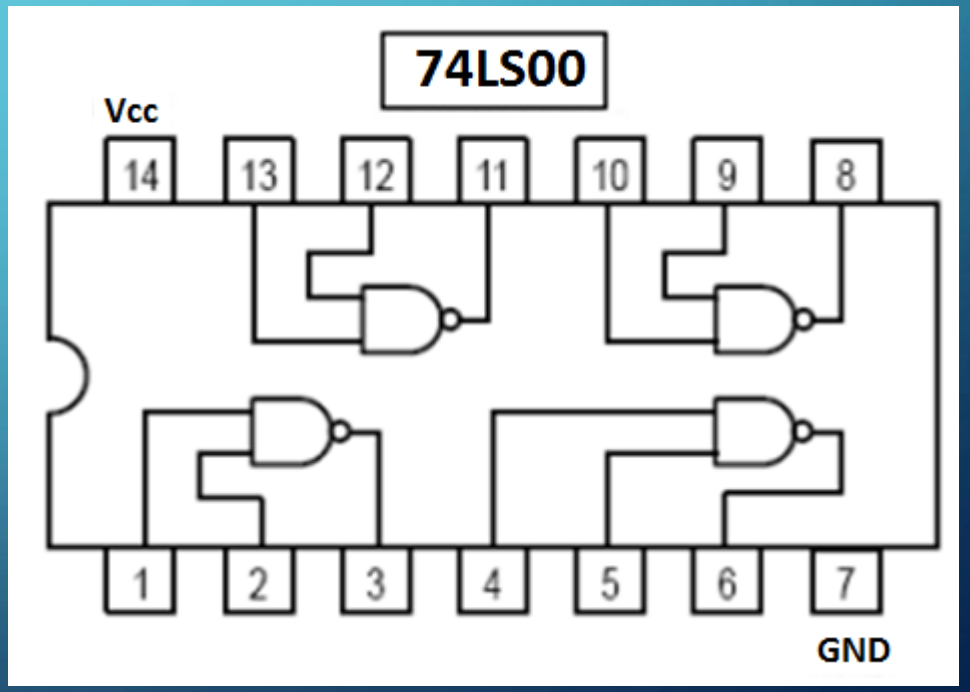
1	1	0





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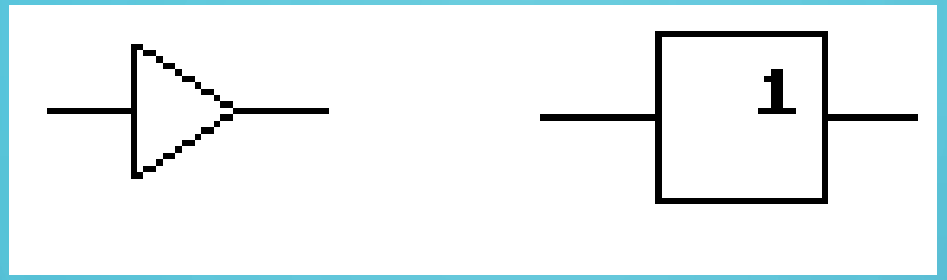

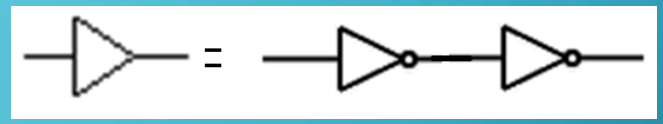

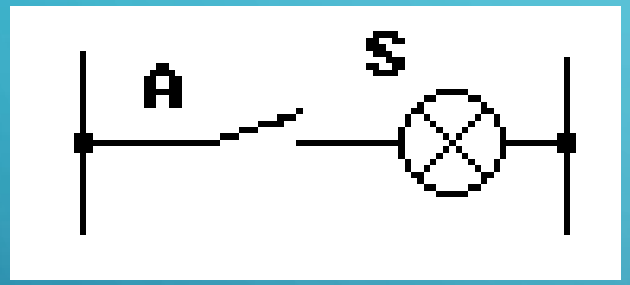

A	S
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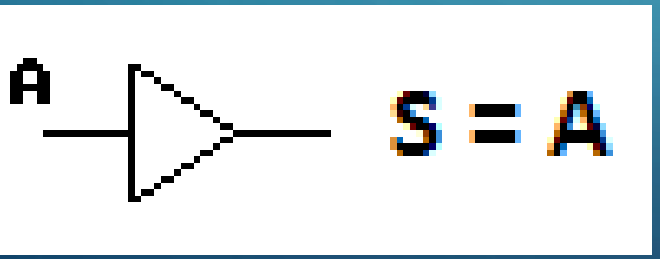
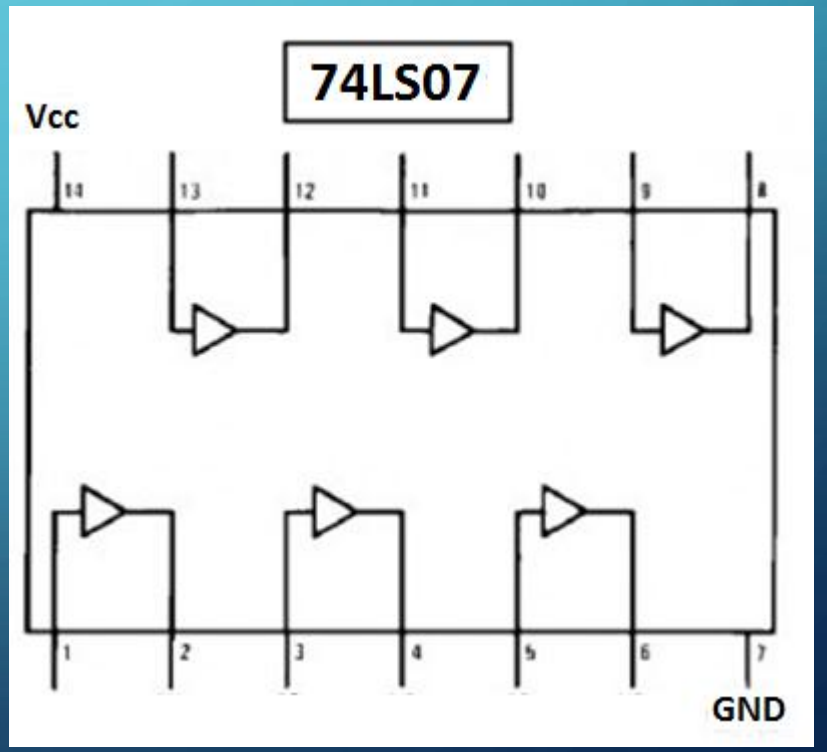
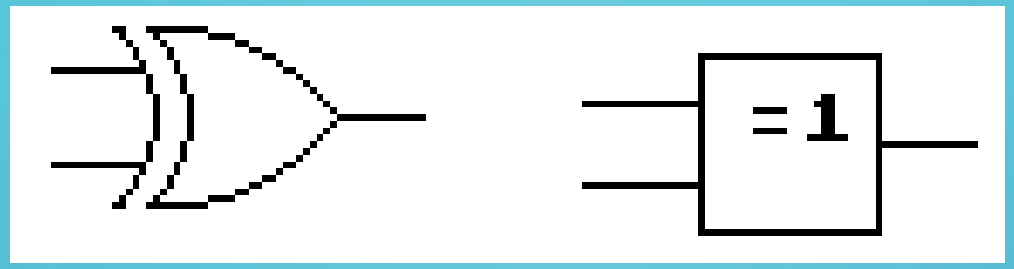
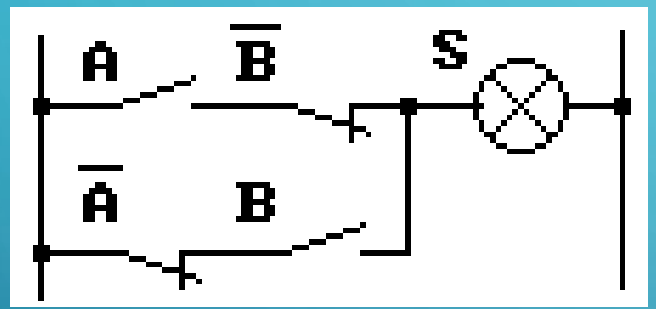
1	1





XOR





A	B	S
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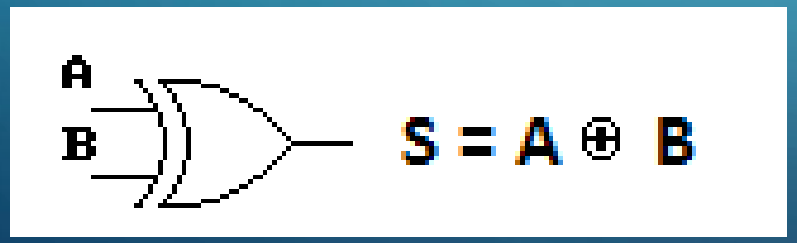
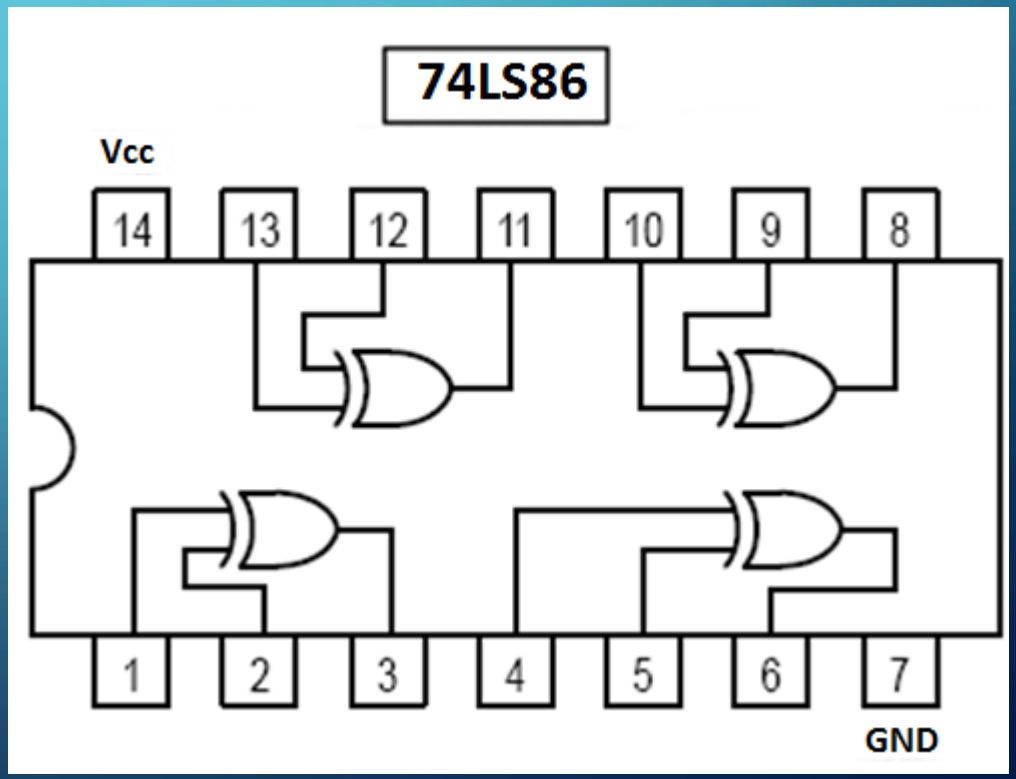
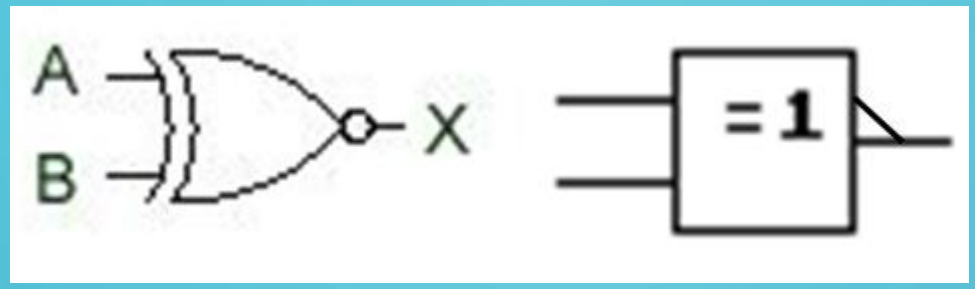
1	1	0





XNOR



A	B	S
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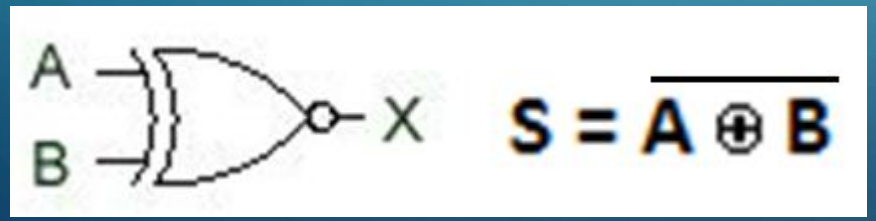
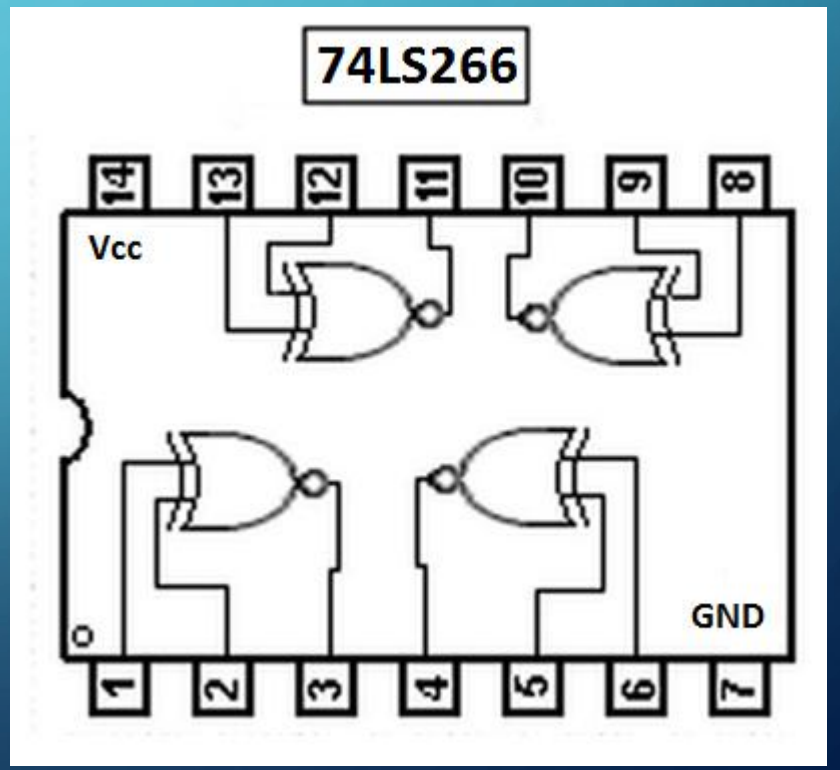
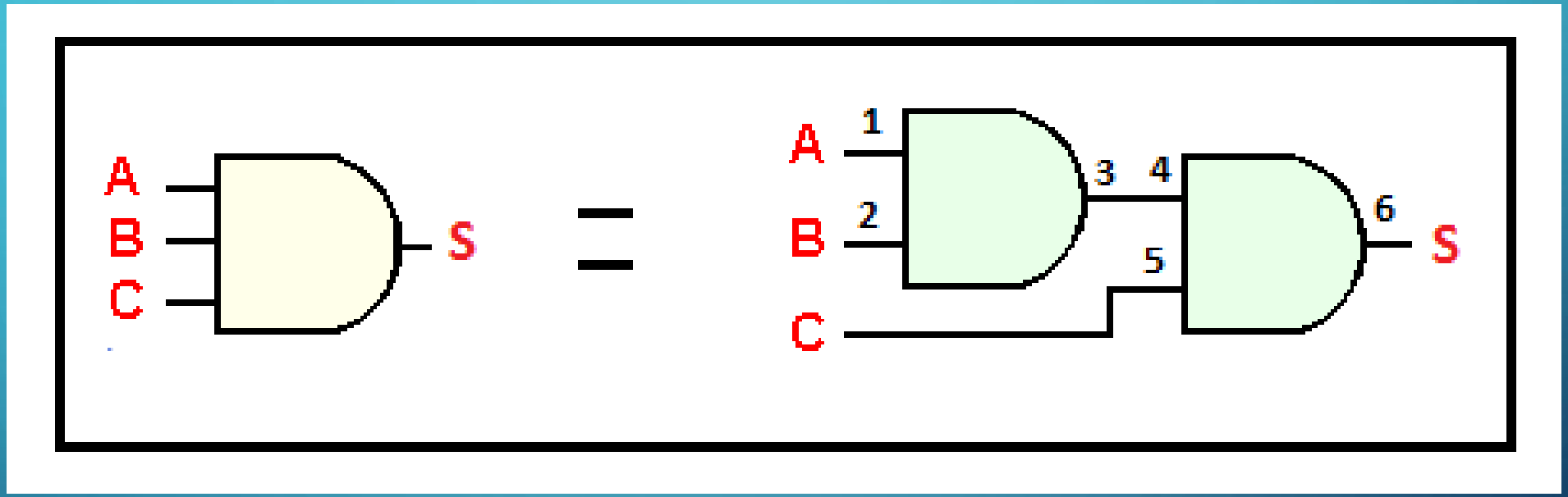
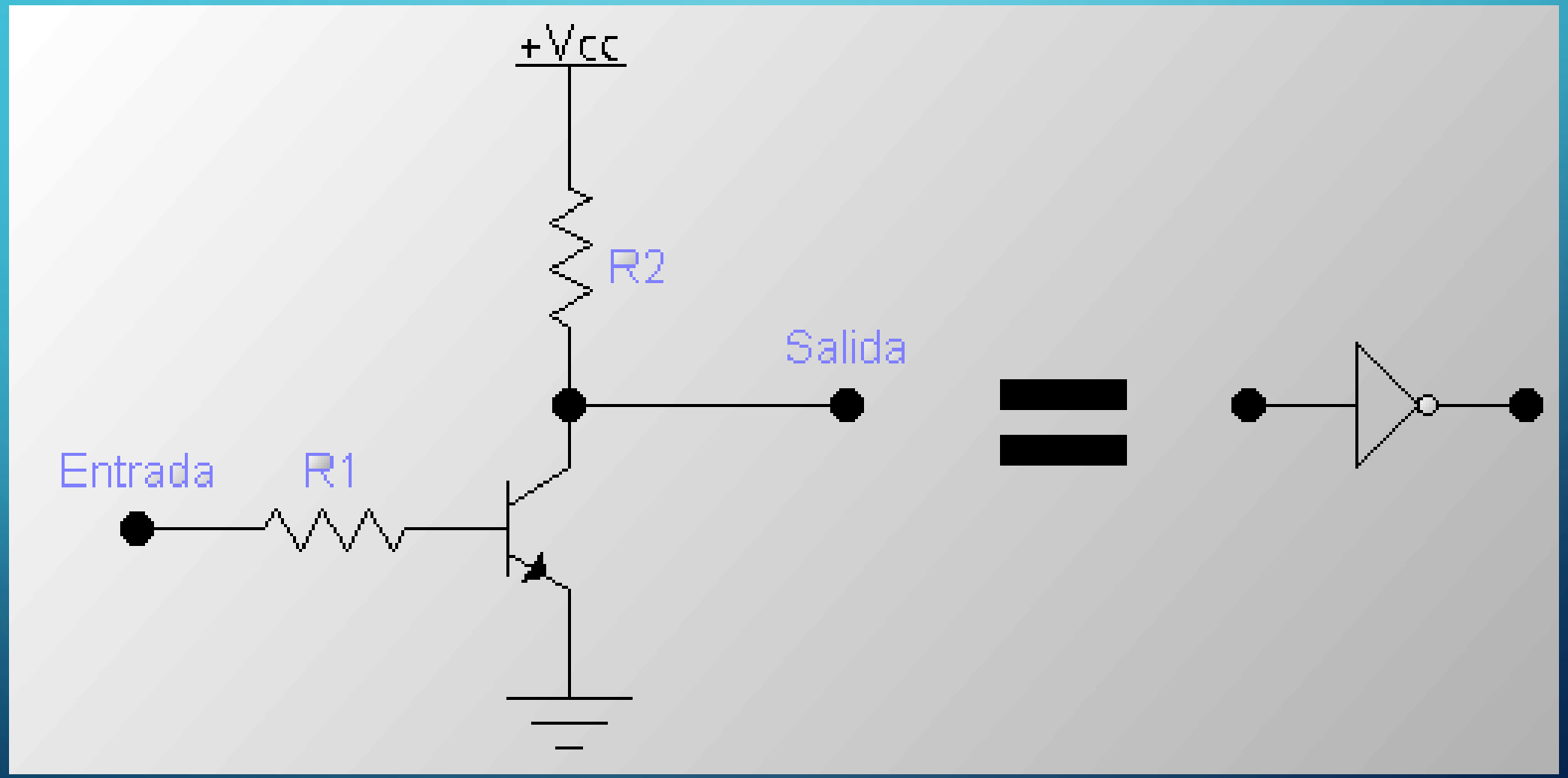
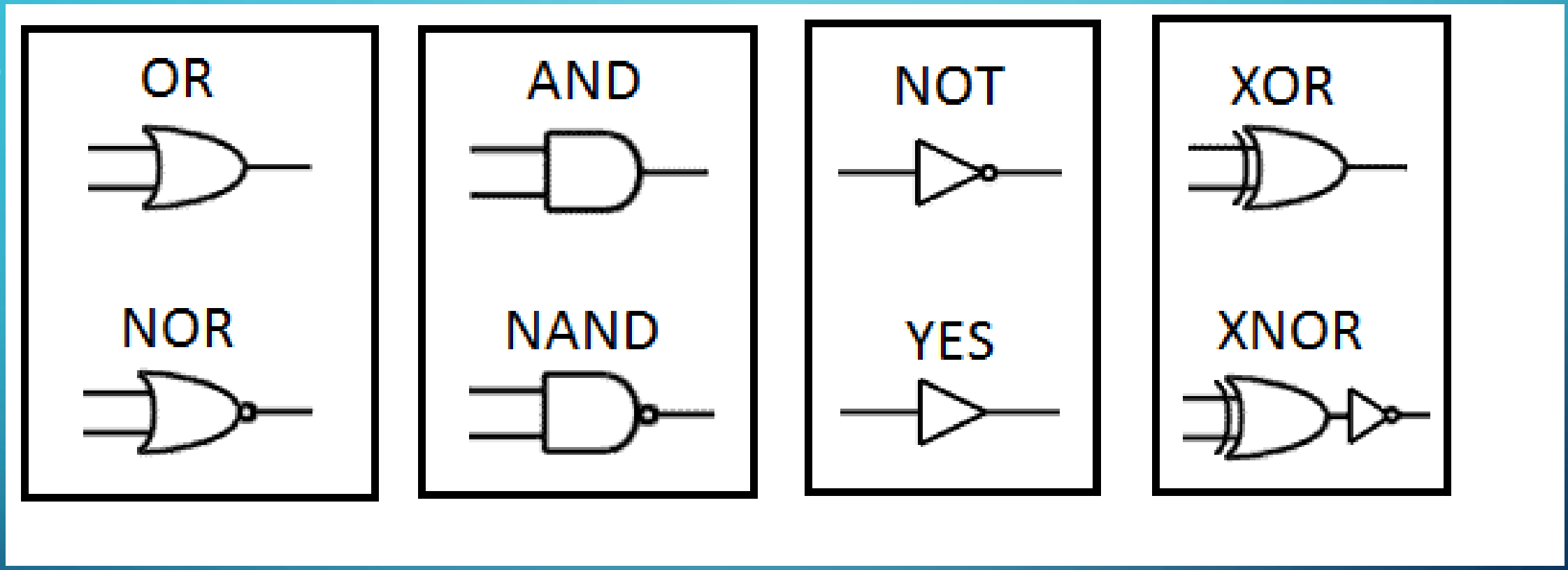
0	1	0
0	0	1

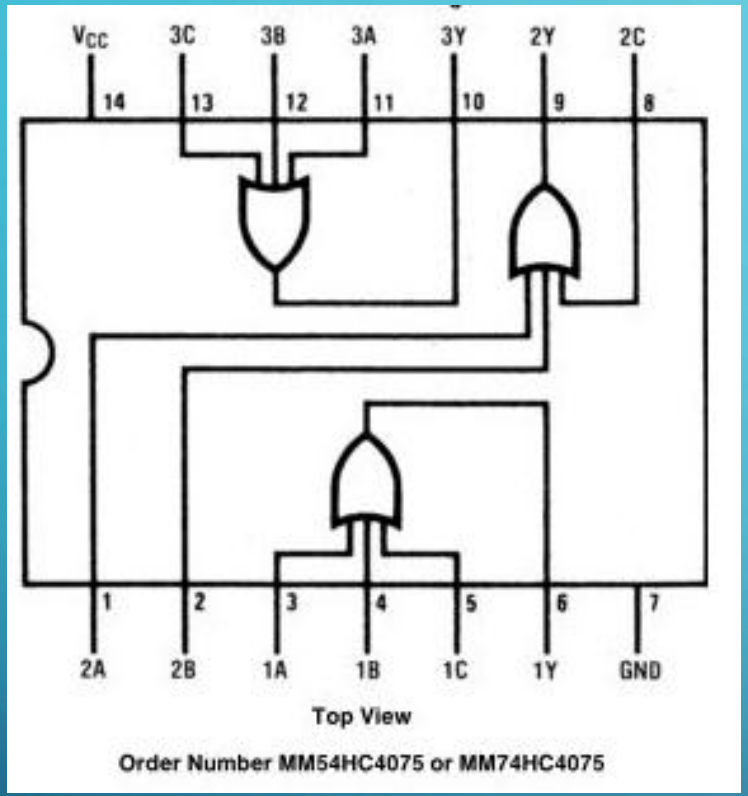





A
B
C
S
=
A
B
C
1
2
3
4
5
6
S


+Vcc
R2
Salida
Entrada
R1


OR
NOR
AND
NAND
NOT
YES
XOR
XNOR


VCC 3C 3B 3A 3Y 2Y 2C
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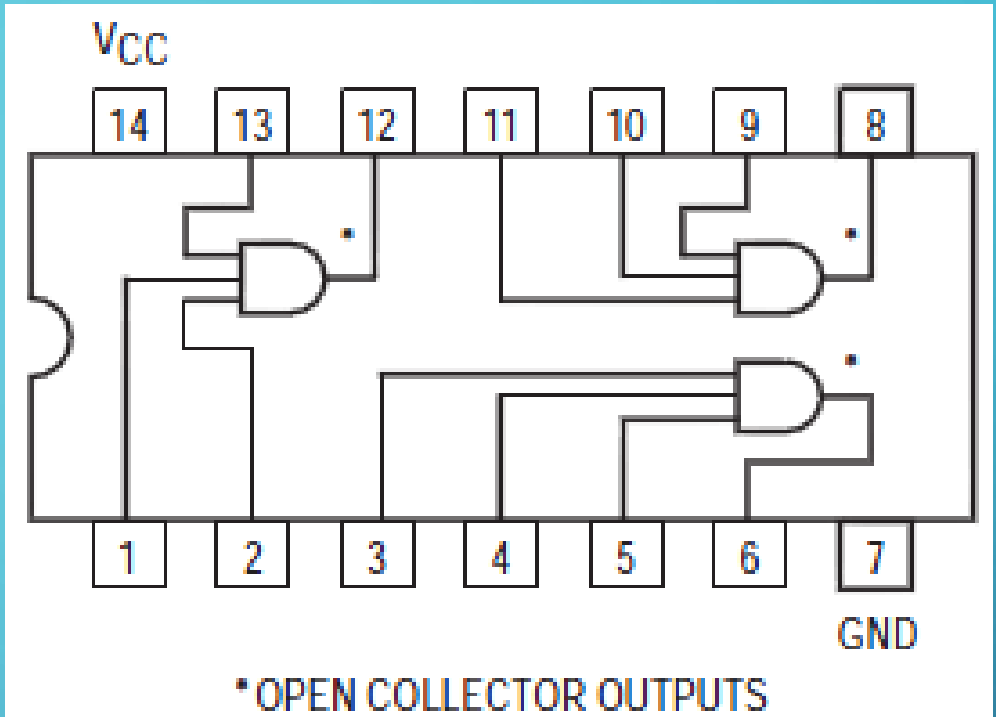
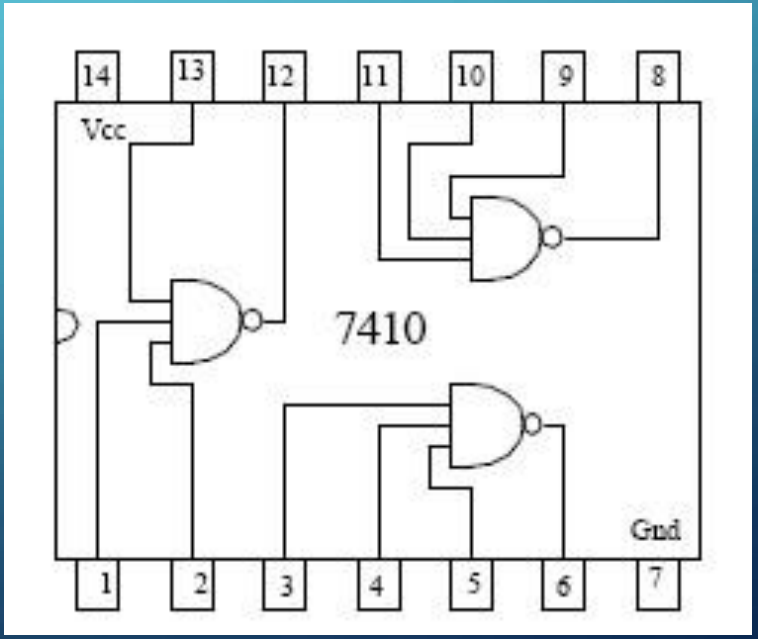
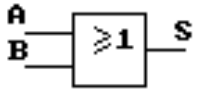
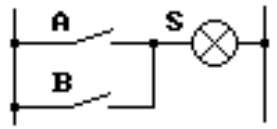
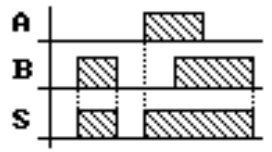
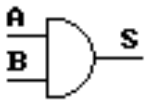
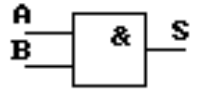
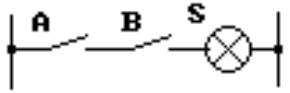
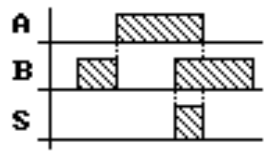
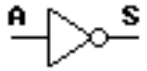
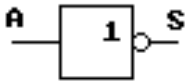
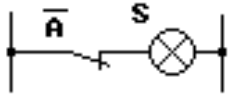
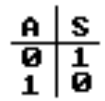
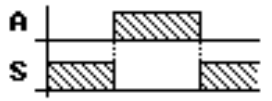
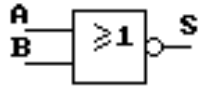
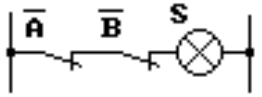
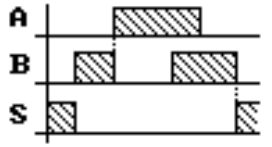
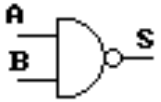
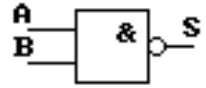
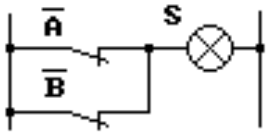
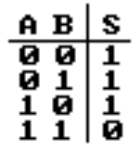
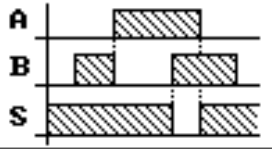
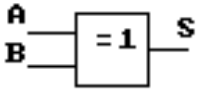
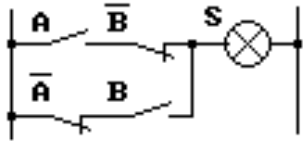
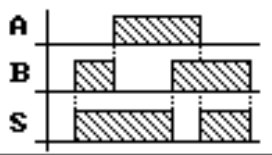
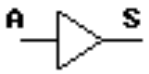
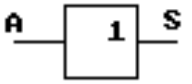
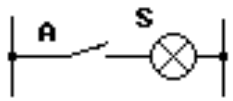
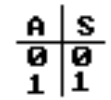
1 2 3 4 5 6 7
2A 2B 1A 1B 1C 1Y GND
Top View
Order Number MM54HC4075 or MM74HC4075

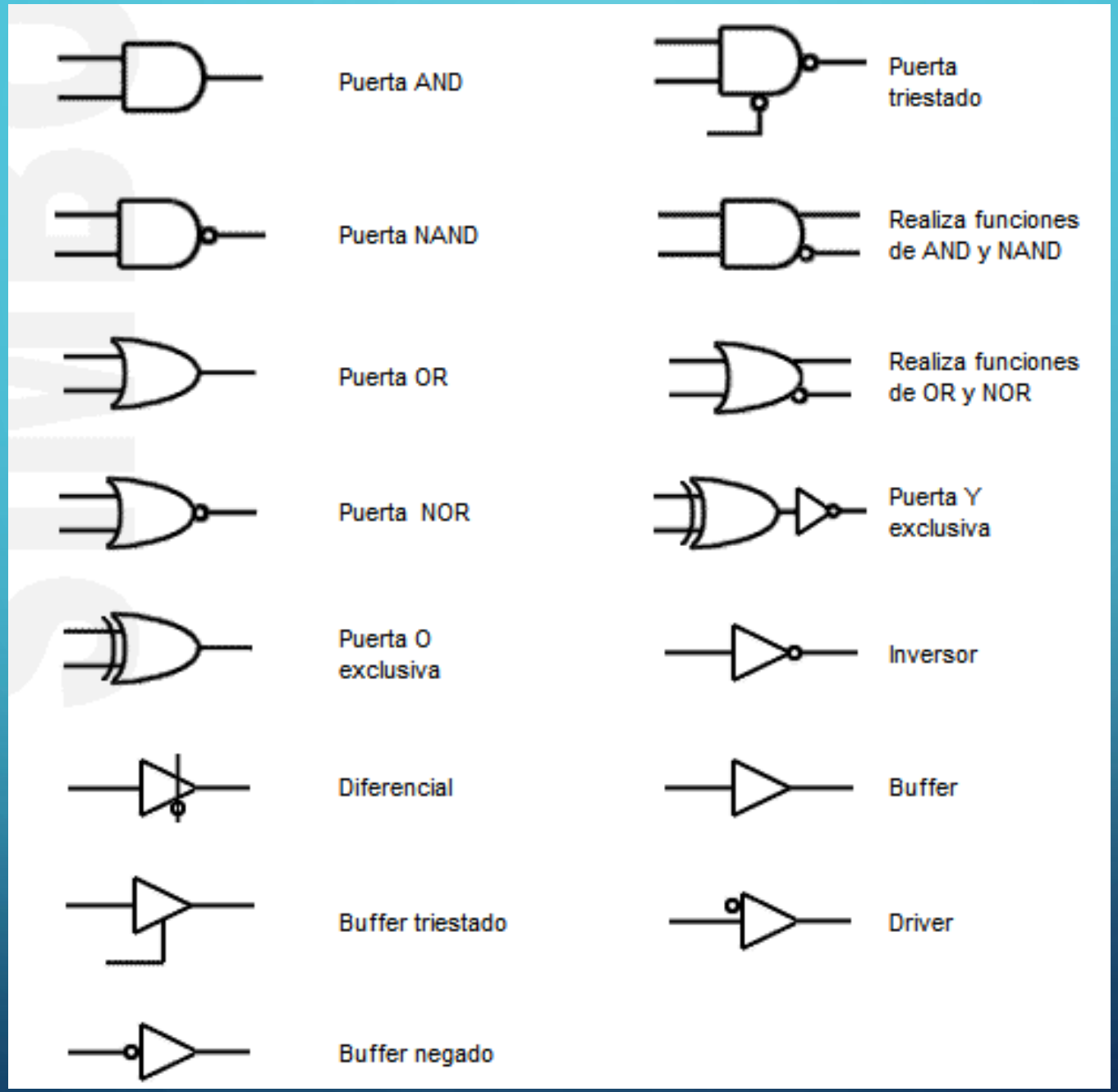

VCC
14 13 12 11 10 9 8
1 2 3 4 5 6 7
GND
*OPEN COLLECTOR OUTPUTS


14 13 12 11 10 9 8
Vcc
7410
Gnd
1 2 3 4 5 6 7

Función	Ecuación lógica	Símbolos			Tabla de verdad	Cronograma
		Norma MIL	Norma IEC	Circuito físico con contactos		
OR	$S = A+B$					
AND	$S = A \cdot B$					
NOT	$S = \overline{A}$	 inversor				
NOR (OR+NOT)	$S = \overline{A+B}$ $S = \overline{A} \cdot \overline{B}$					
NAND (AND+NOT)	$S = \overline{A \cdot B}$ $S = \overline{A}+\overline{B}$					
EXOR	$S = A \oplus B =$ $= A\overline{B} + \overline{A}B$					
EXCITADOR	$S = A$					

sistema ANSI

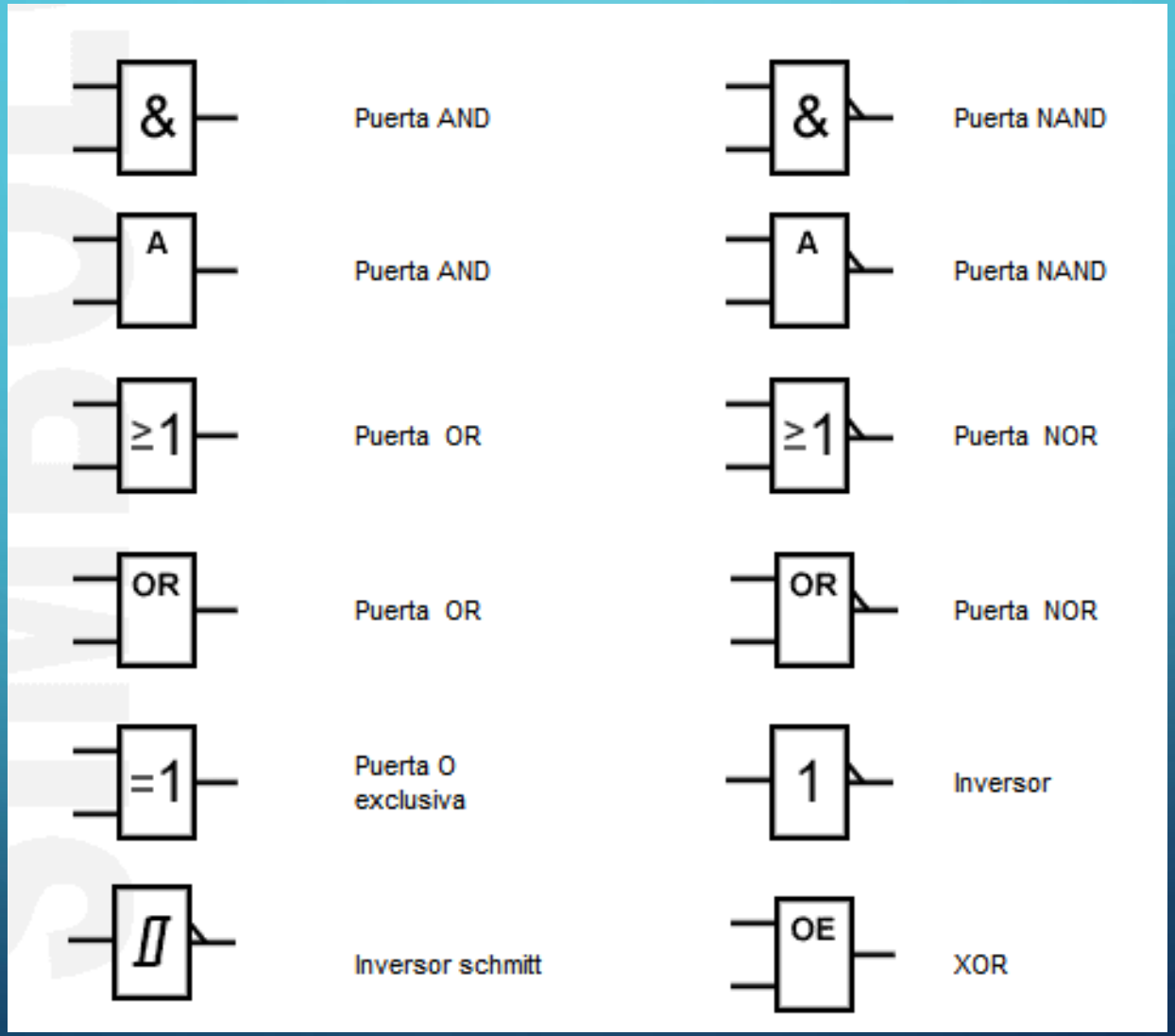
"Militar"

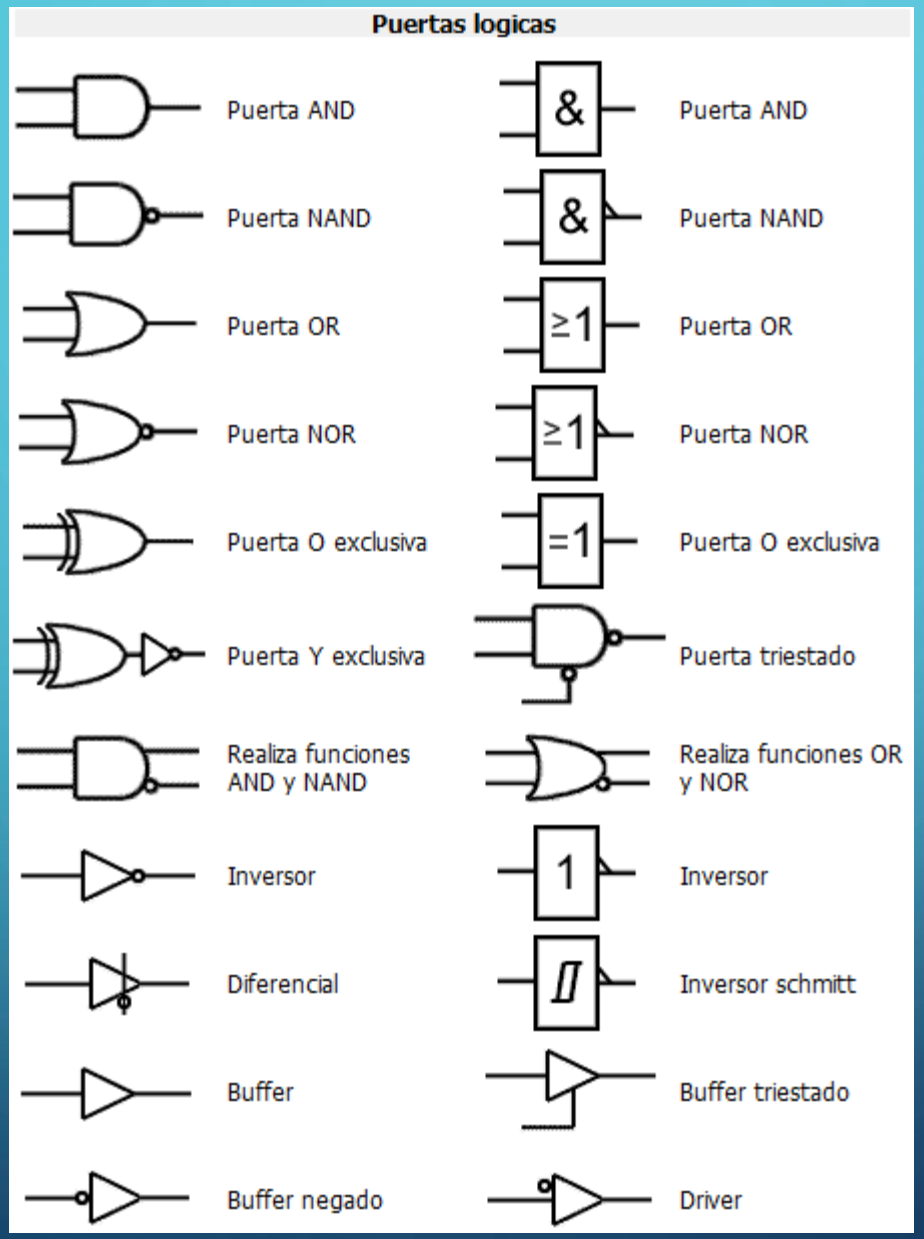


American National Standards Institute

Sistema IEC

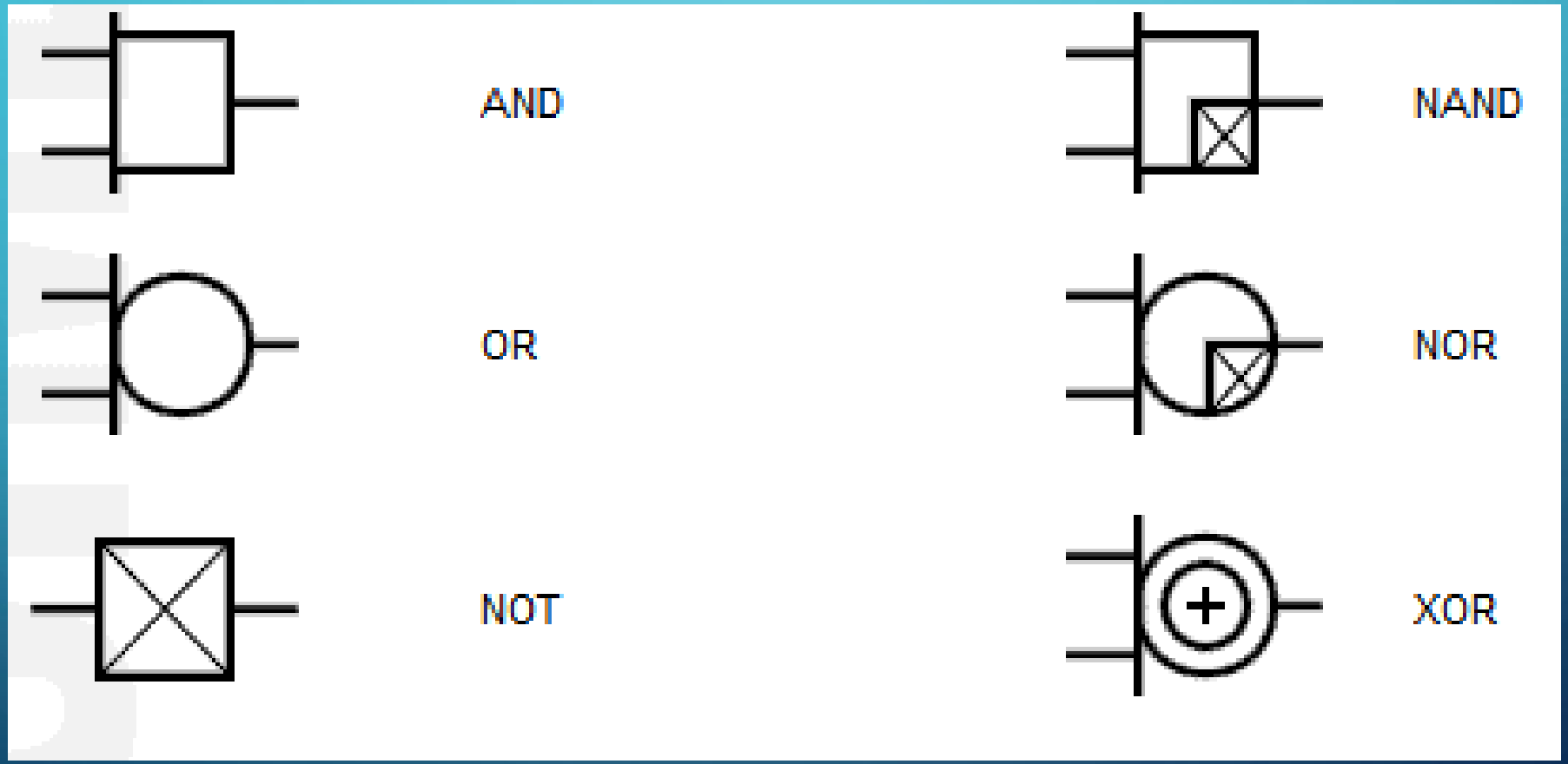
International Electrotechnical Comisión




Puertas logicas
Puerta AND
Puerta NAND
Puerta OR
Puerta NOR
Puerta O exclusiva
Puerta Y exclusiva
Realiza funciones AND y NAND
Inversor
Diferencial
Buffer
Buffer negado
&
&
≥1
≥1
=1
Puerta AND
Puerta NAND
Puerta OR
Puerta NOR
Puerta O exclusiva
Puerta triestado
Realiza funciones OR y NOR
1
Inversor
Inversor schmitt
Buffer triestado
Driver

sistema NEMA

National Electrical Manufacturers Association



sistema ANSI

El **Instituto Nacional Estadounidense de Estándares** (ANSI, por sus siglas en inglés: American National Standards Institute) es una organización sin ánimo de lucro que supervisa el desarrollo de estándares para productos, servicios, procesos y sistemas en los Estados Unidos. ANSI es miembro de la Organización Internacional para la Estandarización (ISO) y de la Comisión Electrotécnica Internacional (International Electrotechnical Commission, IEC).

La organización también coordina estándares del país estadounidense con estándares internacionales, de tal modo que los productos de dicho país puedan usarse en todo el mundo. Por ejemplo, los estándares aseguran que la fabricación de objetos cotidianos, como pueden ser las cámaras fotográficas, se realice de tal forma que dichos objetos puedan usar complementos fabricados en cualquier parte del mundo por empresas ajenas al fabricante original.

sistema NEMA

En Estados Unidos, la mayor institución nacional en estándares eléctricos es la National Electrical Manufacturers Association (NEMA), cuyo objetivo principal es facilitar la cooperación entre fabricantes y usuarios de equipos eléctricos. Todos los grandes fabricantes de equipos eléctricos en EE.UU. son miembros de esta asociación.

7400	4 puertas NAND de 2 entradas, salida Totem Pole
7401	4 puertas NAND de 2 entradas, salida colector abierto
7402	4 puertas NOR de 2 entradas, salida Totem Pole
7403	4puertas NAND de 2 entradas, salida colector Abierto
7404	6 puertas inversoras, salida Totem-pole
7405	6 puertas inversoras, salida Colector Abierto
7406	6 puertas inversoras, Buffer
7407	6 puertas no inversoras, Buffer colector abierto
7408	4 puertas AND de 2 entradas, salida Totem Pole
7409	4 puertas AND de 2 entradas, salida colector abierto
7410	3 puertas NAND de 3 entradas Salida Totem Pole
7411	3 puertas AND de 3 entradas, salida Totem Pole
7412	3 puertas NAND de 3 entradas, salida Colector Abierto
7414	6 puertas inversoras, Histéresis (trigger Schmitt)
7420	2 puertas NAND de 4 entradas, salida Totem Pole
7421	2 puertas AND de 4 entradas, salida Totem-Pole
7427	3 puertas NOR de 3 entradas, salida Totem Pole
7430	1 puerta NAND de 8 entradas, salida Totem Pole

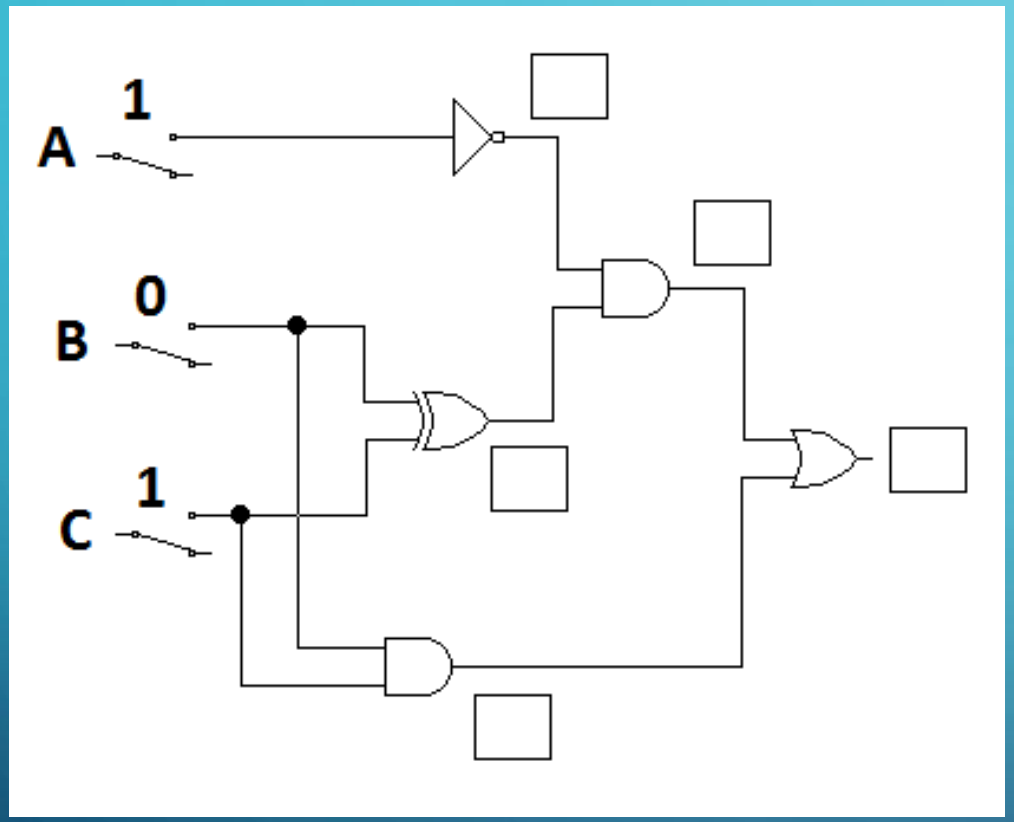
7432	4 puertas OR de 2 entradas, salida Totem Pole
7433	4 puertas NAND de 2entradas
7437	4 puertas NAND de 2 entradas Buffer
7438	4 puertas NAND de 2 entradas Buffer, salidas Colector Abierto
7442	Decodificador de BCD a decimal
7447	Decodificador –excitador de display de7 segmentos
7448	Decodificador –excitador de display de7 segmentos, salida a nivel alto
7451	Doble conjunto de tres puertas AND de 2 entradas y una puerta NOR de 3 entradas
7473	Doble biestable J-K
7475	Cuádruple Latch D con salidas directas y negadas (16 pin)
7477	Cuádruple Latch D
7482	Sumador completo de dos números de 2 bits
7483	Sumador completo de dos números de 4 bits
7485	Comparador de2 números de 4 bits
7486	4 puertas XOR de 2 entradas salida Totem Pole
7490	Contador asíncrono de décadas
7491	Registros De Desplazamiento. Entrada Serie – Salida Serie. 8 bits
7492	Contador asíncrono divisor por 12
7493	Contador binario de 4 bits
7495	Registro Paralelo -Serie, desplazamiento bidireccional con dos señales de reloj.

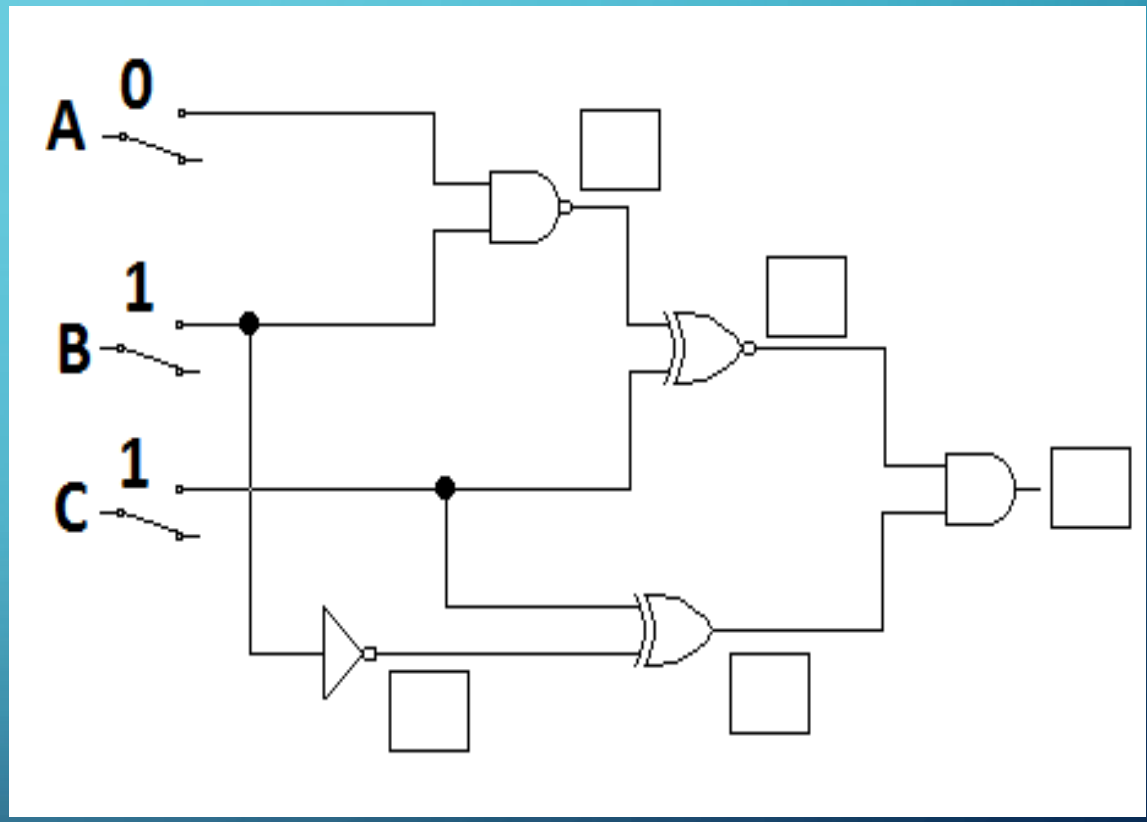
74107	Doble biestable J-K activo flanco de bajada con Clear (14 pins)
74109	Doble biestable J-/K activo con flanco descendente y con Preset
74112	Doble biestable J-K activo con flanco descendente y con Preset y Clear
74113	Doble biestable J-K activo con flanco descendente y con Preset
74114	Doble biestable J-K activo con flanco descendente con Preset y clear y reloj común. (14 pins)
74121	Monoestable con Disparo con Trigger Schmitt. No redisparable
74122	Monoestable Redisparable
74123	Doble monoestable redisparable
74132	4 puertas NAND de 2 entradas Histéresis (Trigger Schmitt)
74133	1 puerta NAND con 13 entradas
74136	4 puertas XOR de 2 entradas salida colector Abierto
74137	Decodificador de 3 a 8 con latch de direcciones
74138	Decodificador de 3 a 8
74139	Doble decodificador de 2 a 4
74147	Codificador de prioridad de 9 a 4 líneas
74259	Latch direccionable de 8 bits (1 bits de entrada y 8 bits de salida)
74273	Ocho biestables D con Clear
74279	Cuádruple latch R-S
74298	Cuádruple multiplexor de 2 entradas, salida con registro.
74299	Registro 8 bits Universal con salida triestado

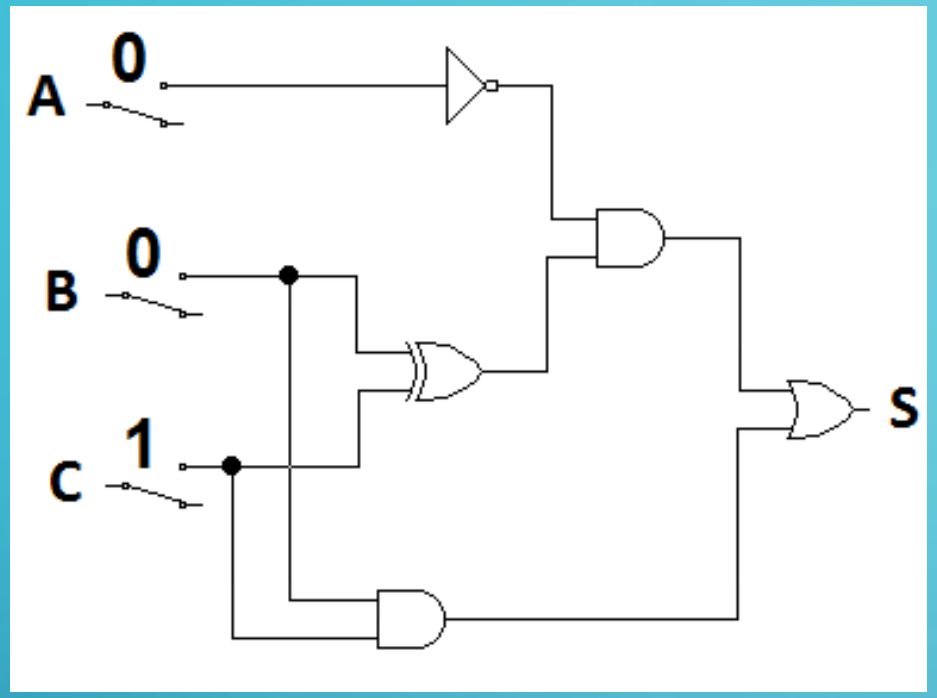
74348	Codificador con prioridad de 8 a 3, salida triestado
74352	Doble multiplexor de 4 entradas, salida negadas totem-pole
74353	Doble multiplexor de 4 entradas, salida negadas Colector abierto
74373	Ocho latch con salida triestado
74390	Doble contador de décadas
74393	Doble contador binario de 4 bits
74594	Registro 8 bits Serie- Paralelo con salidas latch
74595	Registro 8 bits Serie- Paralelo con salidas registradas
74596	Registro 8 bits Serie- Paralelo con salidas registradas y colector abierto.
74597	Registro 8 bits Paralelo- Serie con latch de entrada
74673	Registro 8 bits Serie- Paralelo con registros de almacenamiento
74810	4 puertas NOT-XOR de 2 entradas salida Totem Pole
74811	4 puertas NOT-XOR de 2 entradas salida colector Abierto
74850	Multiplexor de 16 entradas, salida triestado
74866	Comparador de 8 bits

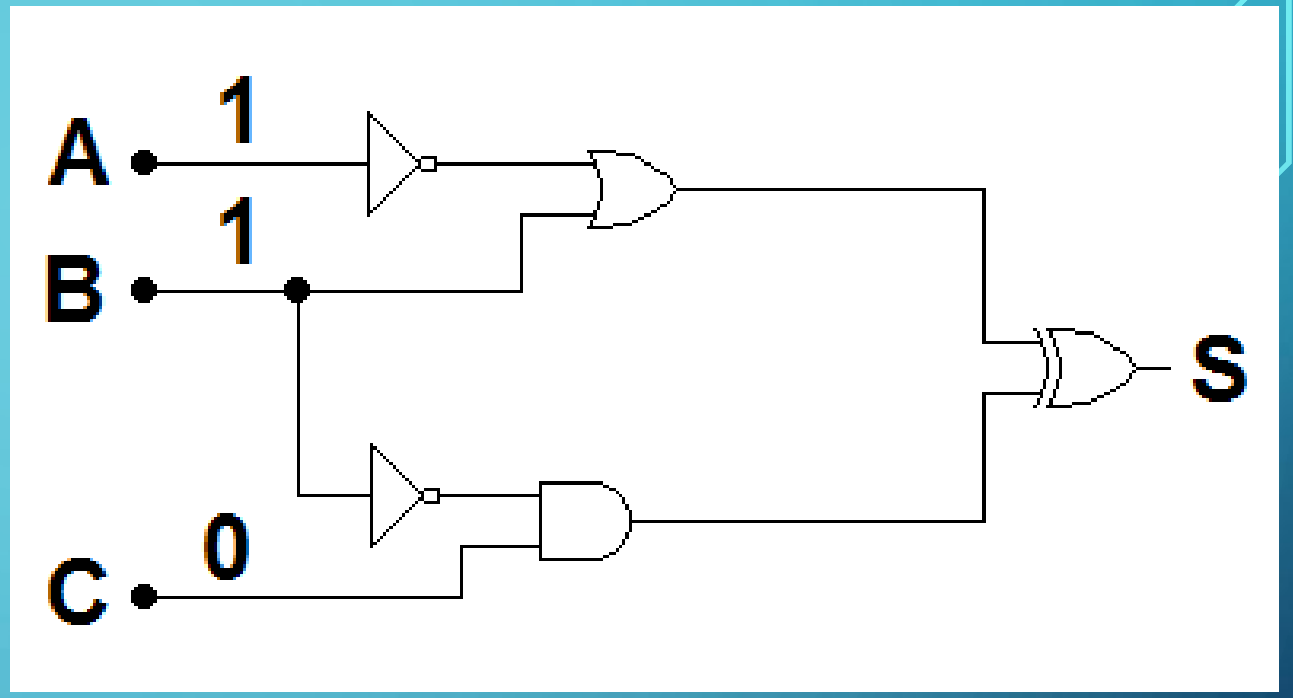
Actividad Complementaria

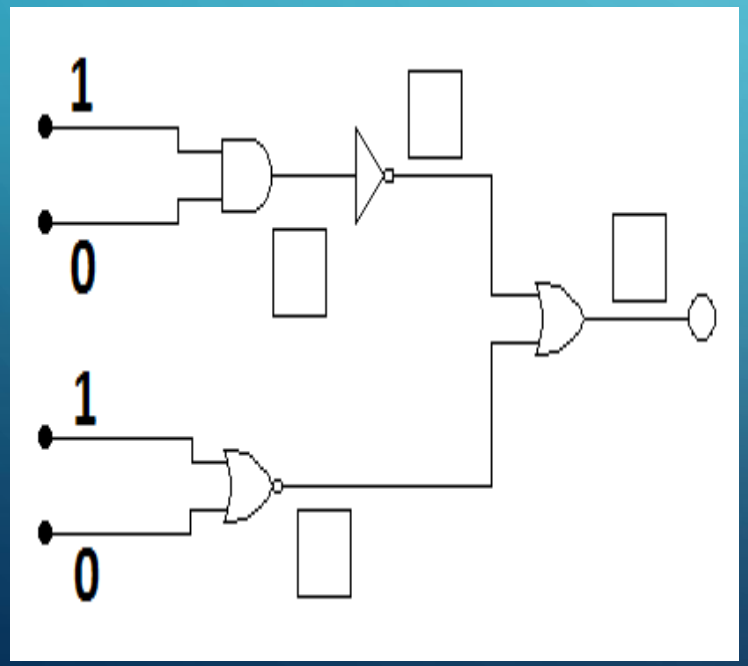
De acuerdo a los valores de entrada, completar en cada cuadro que valor se obtiene

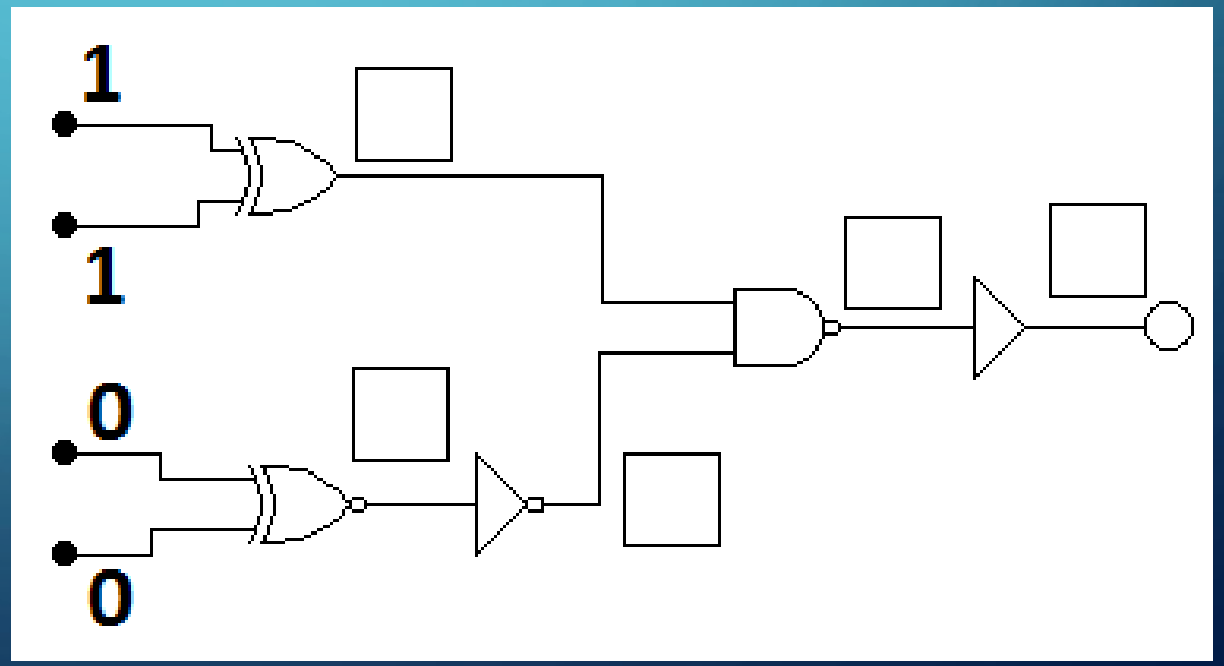





A
0
B
0
C
1
S


A
1
B
1
C
0
S


1
0
1
0


1
1
0
0