

I. Récapitulatif

Fonction	Équation	Table de vérité	Schéma électrique	N.F.	Symbole américain																				
OUI	$L = a$	<table border="1"> <tr><td>a</td><td>L</td></tr> <tr><td>0</td><td>0</td></tr> <tr><td>1</td><td>1</td></tr> </table>	a	L	0	0	1	1																	
a	L																								
0	0																								
1	1																								
NON	$L = \bar{a}$	<table border="1"> <tr><td>a</td><td>\bar{a}</td><td>L</td></tr> <tr><td>0</td><td>1</td><td>1</td></tr> <tr><td>1</td><td>0</td><td>0</td></tr> </table> <p>action physique niveau logique</p>	a	\bar{a}	L	0	1	1	1	0	0														
a	\bar{a}	L																							
0	1	1																							
1	0	0																							
ET	$L = a \cdot b$	<table border="1"> <tr><td>a</td><td>b</td><td>L</td></tr> <tr><td>0</td><td>0</td><td>0</td></tr> <tr><td>0</td><td>1</td><td>0</td></tr> <tr><td>1</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>1</td><td>1</td></tr> </table>	a	b	L	0	0	0	0	1	0	1	0	0	1	1	1								
a	b	L																							
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OU	$L = a + b$	<table border="1"> <tr><td>a</td><td>b</td><td>L</td></tr> <tr><td>0</td><td>0</td><td>0</td></tr> <tr><td>0</td><td>1</td><td>1</td></tr> <tr><td>1</td><td>0</td><td>1</td></tr> <tr><td>1</td><td>1</td><td>1</td></tr> </table>	a	b	L	0	0	0	0	1	1	1	0	1	1	1	1								
a	b	L																							
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NON-ET	$L = \overline{a \cdot b}$	<table border="1"> <tr><td>a</td><td>b</td><td>$a \cdot b$</td><td>L</td></tr> <tr><td>0</td><td>0</td><td>0</td><td>1</td></tr> <tr><td>0</td><td>1</td><td>0</td><td>1</td></tr> <tr><td>1</td><td>0</td><td>0</td><td>1</td></tr> <tr><td>1</td><td>1</td><td>1</td><td>0</td></tr> </table> <p>$L = \overline{a \cdot b} = \bar{a} + \bar{b}$</p>	a	b	$a \cdot b$	L	0	0	0	1	0	1	0	1	1	0	0	1	1	1	1	0			
a	b	$a \cdot b$	L																						
0	0	0	1																						
0	1	0	1																						
1	0	0	1																						
1	1	1	0																						
NON-OU	$L = \overline{a + b}$	<table border="1"> <tr><td>a</td><td>b</td><td>$a + b$</td><td>L</td></tr> <tr><td>0</td><td>0</td><td>0</td><td>1</td></tr> <tr><td>0</td><td>1</td><td>1</td><td>0</td></tr> <tr><td>1</td><td>0</td><td>1</td><td>0</td></tr> <tr><td>1</td><td>1</td><td>1</td><td>0</td></tr> </table> <p>$L = \overline{a + b} = \bar{a} \cdot \bar{b}$</p>	a	b	$a + b$	L	0	0	0	1	0	1	1	0	1	0	1	0	1	1	1	0			
a	b	$a + b$	L																						
0	0	0	1																						
0	1	1	0																						
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1	1	1	0																						

II. Equations fondamentales de l'algèbre de Boole

Opérateur ET	$a \cdot a = a$	$a \cdot 1 = a$	$a \cdot \bar{a} = 0$	$a \cdot 0 = 0$
Opérateur OU	$a + a = a$	$a + 0 = a$	$a + \bar{a} = 1$	$a + 1 = 1$

III. Identités remarquables

Absorption	$a + \bar{a} \cdot b = a + b$
	$\bar{a} + a \cdot b = \bar{a} + b$
	$a + \bar{a} \cdot b \cdot c = a + b \cdot c$
	$a + a \cdot b = a$

Distributivité	$a + b \cdot c = (a + b) \cdot (a + c)$	$x \cdot (y + z) = x \cdot y + x \cdot z$
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Ou encore : $a \cdot b + a \cdot c + a \cdot \bar{c} = a \cdot (b + c + \bar{c}) = a \cdot (b + 1) = a$