
Soient a,b et c trois variables booléennes.

<i>a</i>	<i>b</i>	<i>c</i>	<i>(a OR b) AND C</i>
0	0	0	
0	0	1	
0	1	0	
0	1	1	
1	0	0	
1	0	1	
1	1	0	
1	1	1	

Compléter la table de vérité de $(a \text{ OR } b) \text{ AND } (a \text{ OR } c)$:

<i>a</i>	<i>b</i>	<i>c</i>	<i>(a OR b) AND not(a OR c)</i>
0	0	0	
0	0	1	
0	1	0	
0	1	1	
1	0	0	
1	0	1	
1	1	0	
1	1	1	

Exercice n° 1

Construire la table de vérité de :

1. $(a \text{ OR } b) \text{ OR not}(c)$
2. $\text{not}(a \text{ OR } b) \text{ and } c$
3. $\text{not}(a \text{ AND } b)$
4. $(a \text{ OR } b) \text{ AND not}(a \text{ AND } b)$

Correction de l'exercice :

1. $(a \text{ OR } b) \text{ OR } \text{not}(c)$

a	b	c	$(a \text{ OR } b) \text{ OR } \text{not}(c)$
0	0	0	1
0	0	1	0
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	1

2. $\text{not}(a \text{ OR } b) \text{ and } c$

a	b	c	$\text{not}(a \text{ OR } b) \text{ and } c$
0	0	0	0
0	0	1	1
0	1	0	0
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

3. $\text{not}(a \text{ AND } b)$

a	b	$\text{not}(a \text{ AND } b)$
0	0	1
0	1	1
1	0	1
1	1	0

4. $(a \text{ OR } b) \text{ AND } \text{not}(a \text{ AND } b)$

a	b	$(a \text{ OR } b) \text{ AND } \text{not}(a \text{ AND } b)$
0	0	0
0	1	1
1	0	1
1	1	0