

Propriedades de Equações Booleanas

Propriedade	Versão OR	Versão AND
1- Identidade	$A + 0 = A$	$A \cdot 1 = A$
2- Elemento Nulo	$A + 1 = 1$	$A \cdot 0 = 0$
3- Equivalência	$A + A = A$	$A \cdot A = A$
4- Complemento	$A + \bar{A} = 1$	$A \cdot \bar{A} = 0$
5- Involução	$\bar{\bar{A}} = A$	$\bar{\bar{A}} = A$
6- Comutativa	$A + B = B + A$	$A \cdot B = B \cdot A$
7- Associativa	$(A + B) + C = A + (B + C)$	$(A \cdot B) \cdot C = A \cdot (B \cdot C)$
8- Distributiva	$A + B \cdot C = (A + B) \cdot (A + C)$	$A \cdot (B + C) = A \cdot B + A \cdot C$
9- Absorção 1	$A + A \cdot B = A$	$A \cdot (A + B) = A$
10- Absorção 2	$A + \bar{A} \cdot B = A + B$	$A \cdot (\bar{A} + B) = A \cdot B$
11- Consensus	$A \cdot B + \bar{A} \cdot C + B \cdot C = A \cdot B + \bar{A} \cdot C$	$(A + B) \cdot (\bar{A} + C) \cdot (B + C) = (A + B) \cdot (\bar{A} + C)$
12- de Morgan	$\overline{A + B} = \bar{A} \cdot \bar{B}$	$\overline{A \cdot B} = \bar{A} + \bar{B}$

Propriedades da Função Exclusive OR (XOR)

Propriedade	1	2
Soma dos minitermos	$A \oplus B = \bar{A} \cdot B + A \cdot \bar{B}$	$\overline{A \oplus B} = A \cdot B + \bar{A} \cdot \bar{B}$
Outras propriedades	$A \oplus A = 0$	$A \oplus \bar{A} = 1$

Mapas de Karnaugh:

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