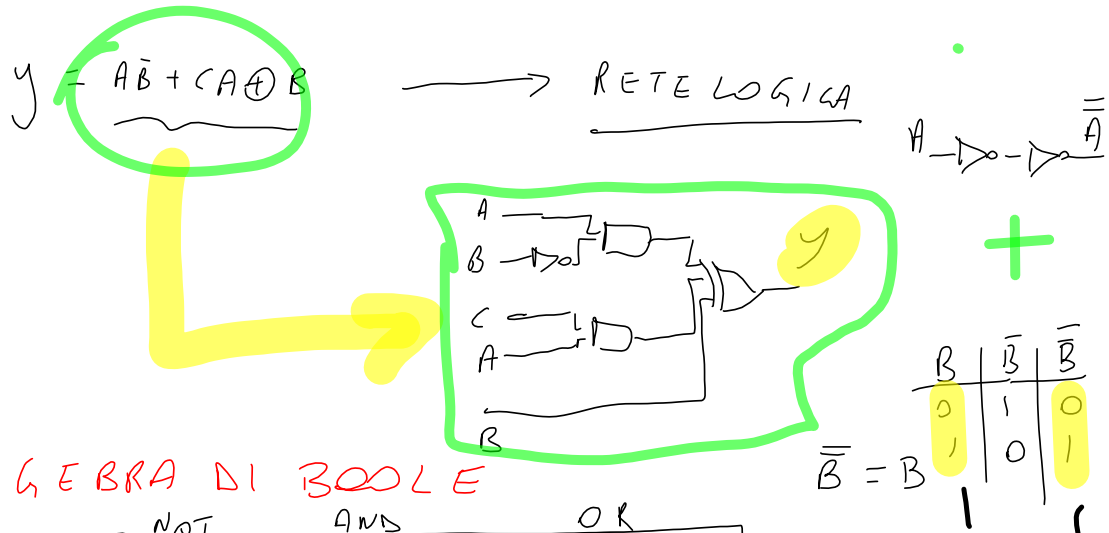


y = uscita FUNZIONE DI COMMUTAZIONE



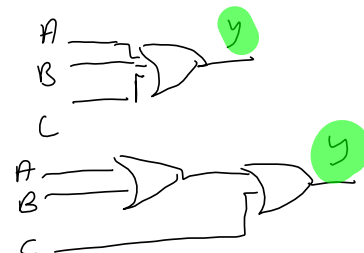
ALGEBRA DI BOOLE

①

NOT	AND	OR
$\bar{\bar{A}} = A$	$A \cdot \emptyset = \emptyset$ $A \cdot 1 = A$ $A \cdot A = A$ $A \cdot \bar{A} = \emptyset$	$A + 1 = 1$ $A + 0 = A$ $A + A = A$ $A + \bar{A} = 1$

A	\bar{A}	$A + \bar{A}$
0	1	1
1	0	1

Proprietà	AND	OR
Commutativa	$A \cdot B = B \cdot A$	$A + B = B + A$
Associativa	$A \cdot B \cdot C =$ $= (A \cdot B) \cdot C =$ $= A \cdot (B \cdot C) =$ $= (A \cdot C) \cdot B$	$A + B + C =$ $= (A + B) + C =$ $= A + (B + C) =$ $= (A + C) + B$
Distributiva	$A \cdot (B + C) = AB + AC$	$A + BC = (A + B) \cdot (A + C)$



Teoremi	diretto	duale
Idempotenza	$A \cdot A \cdot A = A$	$A + A + A = A$
Assorbimento	$A + A \cdot B = A$	$A \cdot (A + B) = A$
De Morgan	$\overline{A \cdot B} = \overline{A} + \overline{B}$	$\overline{A + B} = \overline{A} \cdot \overline{B}$

A	B	$A \cdot B$	$A + A \cdot B$
0	0	0	0
0	1	0	0
1	0	0	1
1	1	1	1

Red arrows point from the first and third columns to the result column, indicating the simplification process.

$$\underline{A + AB = A}$$

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

A	B	$A + B$	$A \cdot (A + B)$
0	0	0	0
0	1	1	0
1	0	1	1
1	1	1	1

Red arrows point from the first and second columns to the result column, indicating the simplification process.