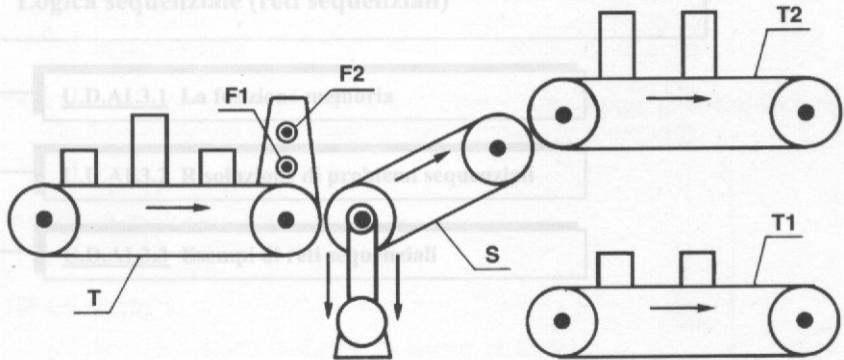
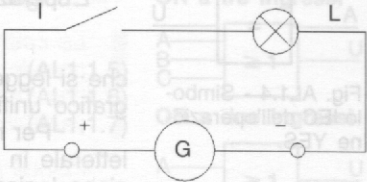


# Logica sequenziale (reti sequenziali)





**A**



**B**



**C**



**ELABORAZIONE  
LOGICA**

**Se A, B, C...**

**Allora U...**

**U**



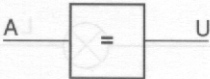
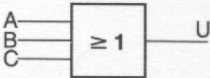


Fig. AL1.4 - Simbolo IEC dell'operazione YES.

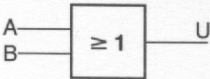


Fig. AL1.5 - Simbolo IEC dell'operazione NOT.

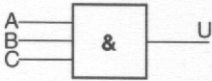
**OR a tre ingressi**



**OR a due ingressi**



# AND a tre ingressi



# AND a due ingressi



YES

$U = A$	
A	U
0	0
1	1

NOT

$U = \bar{A}$	
A	U
0	1
1	0



$$U = A + B$$

A	B	U	U
0	0	0	0
0	1	0	0
1	0	0	0
1	1	1	1

$$U = A + B$$

A	B	U
0	0	0
0	1	1
1	0	1
1	1	1

U = A * B * C			
A	B	C	U
0	0	0	0
0	0	1	0
0	1	0	0
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	1

U = A + B + C			
A	B	C	U
0	0	0	0
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	1

A	B	U
0	0	0
0	1	1
1	0	1
1	1	1

→

Andrea ha il giradischi	Andrea ha la radio	Andrea ascolta la musica
Falso	Falso	Falso
Falso	Vero	Vero
Vero	Falso	Vero
Vero	Vero	Vero

S1	S2	S3	C
0	0	0	0
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	1



Sensore 1 attivo	Sensore 2 attivo	Sensore 3 attivo	Centrale in allarme
Falso	Falso	Falso	Falso
Falso	Falso	Vero	Vero
Falso	Vero	Falso	Vero
Falso	Vero	Vero	Vero
Vero	Falso	Falso	Vero
Vero	Falso	Vero	Vero
Vero	Vero	Falso	Vero
Vero	Vero	Vero	Vero

A	B	C	U
0	0	0	0
0	0	1	0
0	1	0	0
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	1



Prestazione 1 verificata	Prestazione 2 verificata	Prestazione 3 verificata	Pezzo buono
Falso	Falso	Falso	Falso
Falso	Falso	Vero	Falso
Falso	Vero	Falso	Falso
Falso	Vero	Vero	Falso
Vero	Falso	Falso	Falso
Vero	Falso	Vero	Falso
Vero	Vero	Falso	Falso
Vero	Vero	Vero	Vero

NOR

$$U = \overline{A+B}$$

A	B	U
0	0	1
0	1	0
1	0	0
1	1	0

NAND

$$U = \overline{A \cdot B}$$

A	B	U
0	0	1
0	1	1
1	0	1
1	1	0

## EX - OR

$$U = A \oplus B$$

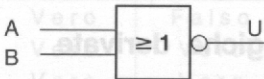
A	B	U
0	0	0
0	1	1
1	0	1
1	1	0

## EX - NOR

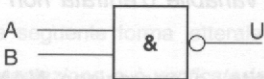
$$U = \overline{A \oplus B}$$

A	B	U
0	0	1
0	1	0
1	0	0
1	1	1

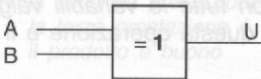
## NOR



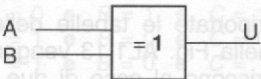
## NAND



## EX - OR



## EX - NOR





gresso  $A$  e  $B$ .

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

Fig. AL1.14 - Calcolo iterativo dell'espressione  $A * \bar{B} + A * B$ .

A	B	$A * B$	$A + (A * B)$
0	0	0	0
0	1	0	0
1	0	0	1
1	1	1	1

Fig. AL1.15 - Calcolo iterativo dell'espressione  $A + (A * B)$ .

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

A	B	$A + B$	$\bar{A}$	$\bar{B}$	$\bar{A} + \bar{B}$	$(A + B) * (\bar{A} + \bar{B})$
0	0	0	1	1	1	0
0	1	1	1	0	1	1
1	0	1	0	1	1	1
1	1	1	0	0	0	0

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

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

A	$\bar{A}$	$(\bar{\bar{A}})$
0	1	0
1	0	1

a)

A	A	$A + A$
0	0	0
1	1	1

b)

A	1	$A + 1$
0	1	1
1	1	1

c)

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

d)

A	B	A + B	B + A
0	0	0	0
0	1	1	1
1	0	1	1
1	1	1	1

A	B	C	A + B	(A + B) + C	B + C	A + (B + C)
0	0	0	0	0	0	0
0	0	1	0	1	1	1
0	1	0	1	1	1	1
0	1	1	1	1	1	1
1	0	0	1	1	0	1
1	0	1	1	1	1	1
1	1	0	1	1	1	1
1	1	1	1	1	1	1