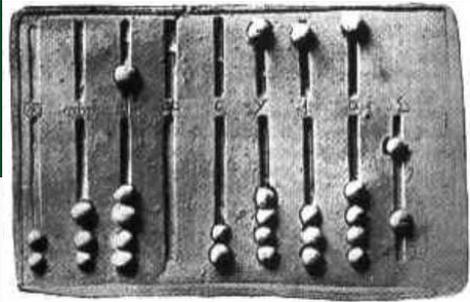


# PICCOLI CALCOLATORI CRESCONO

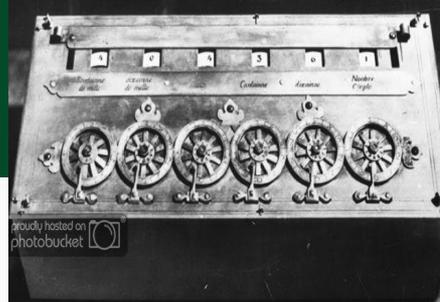


# STORIA



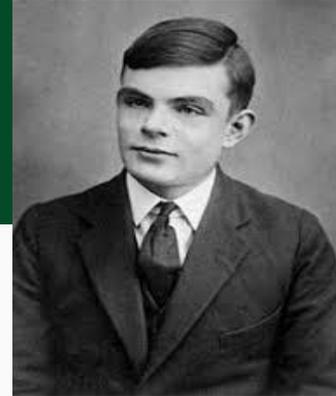
## Abaco

I Babilonesi furono i tra i primi nel V secolo a.C. a inventare un vero e proprio calcolatore: l'abaco.



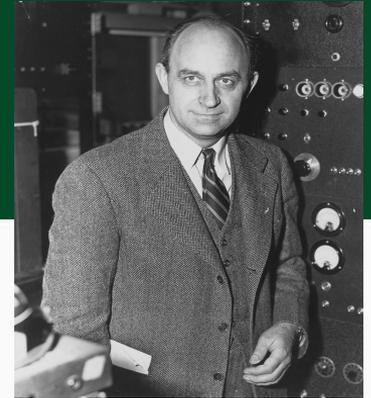
## Pascalina

Il primo calcolatore automatico venne costruito da Pascal nel 1645: la pascalina.



## Alan Turing

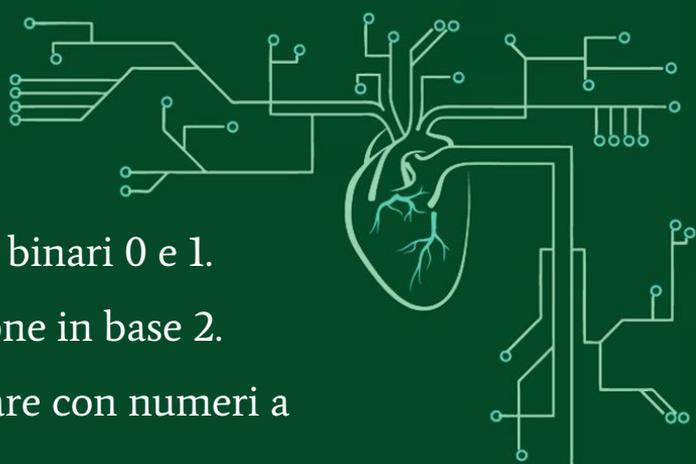
Egli descrisse una macchina ideale nel 1936, la macchina di Turing, in grado di risolvere qualsiasi tipo di calcolo.



## Enrico Fermi

Nel 1953, un team di fisici, informatici e matematici guidato da Enrico Fermi ha utilizzato per la prima volta un computer per portare a termine un "esperimento" numerico.

# CODICE BINARIO



In informatica e discipline affini il **codice binario** utilizza i simboli binari 0 e 1.

Un numero in codice binario è equivalente alla sua rappresentazione in base 2.

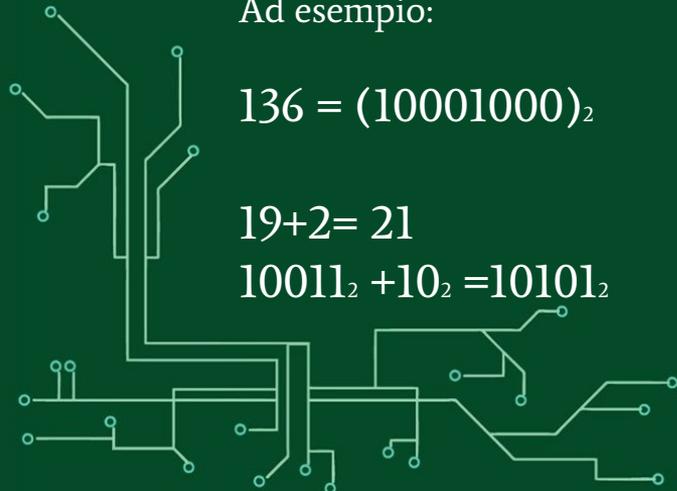
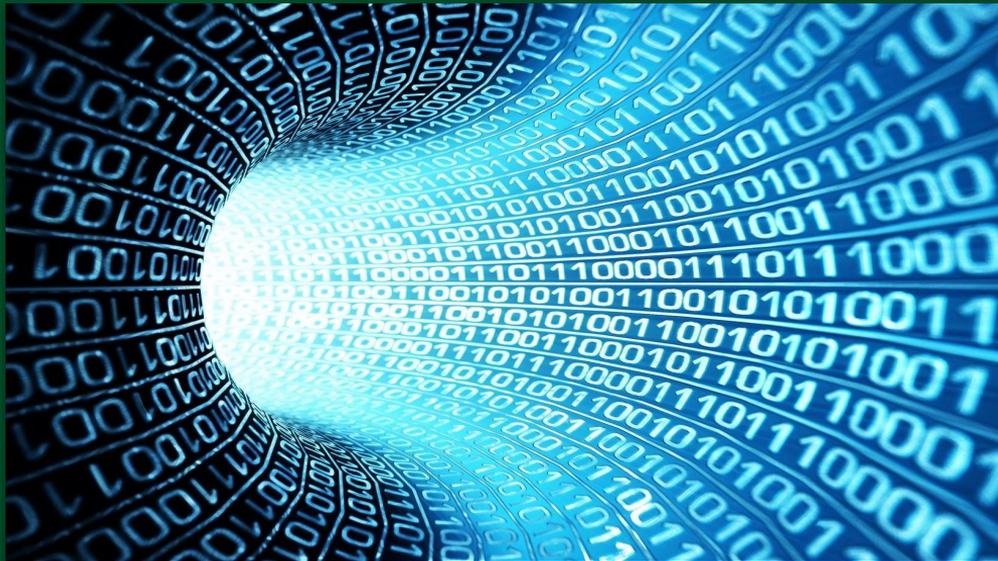
Il codice binario facilita le operazioni ma ha lo svantaggio di operare con numeri a molte cifre.

Ad esempio:

$$136 = (10001000)_2$$

$$19+2= 21$$

$$10011_2 + 10_2 = 10101_2$$



# OPERATORI LOGICI

“AND”

AND	F	V
F	F	F
V	F	V

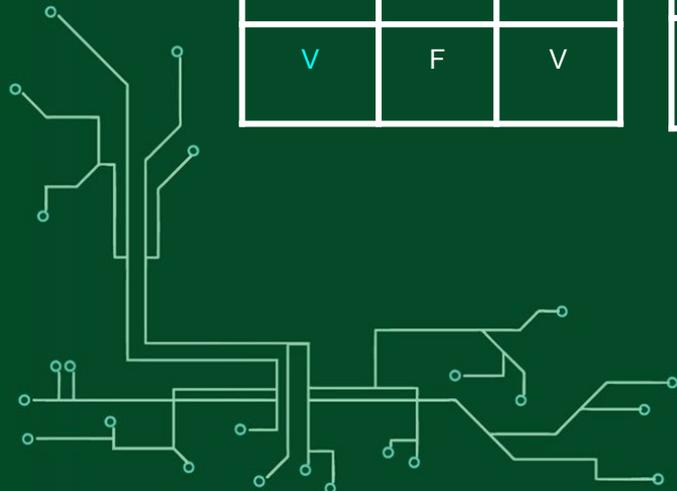
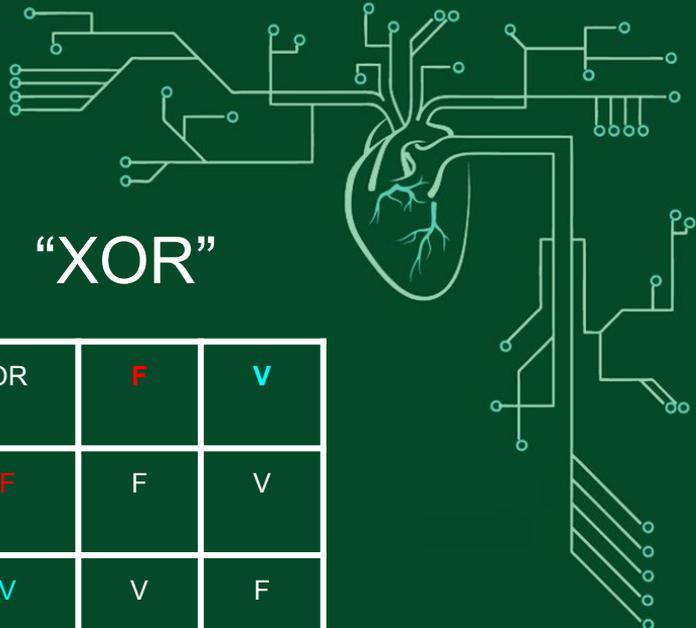
“OR”

OR	F	V
F	F	V
V	V	V

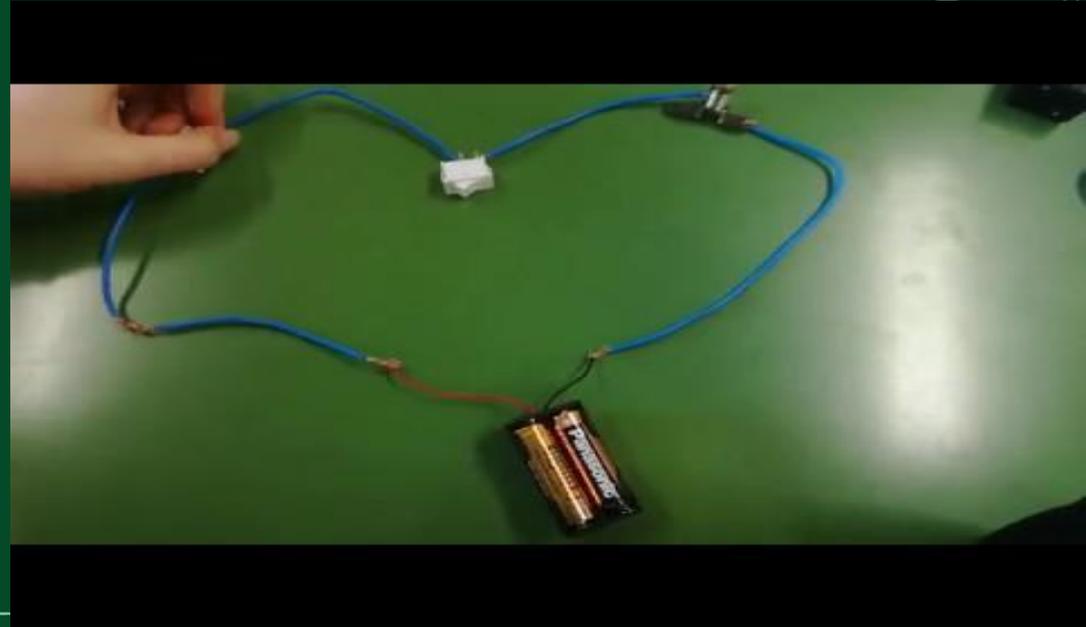
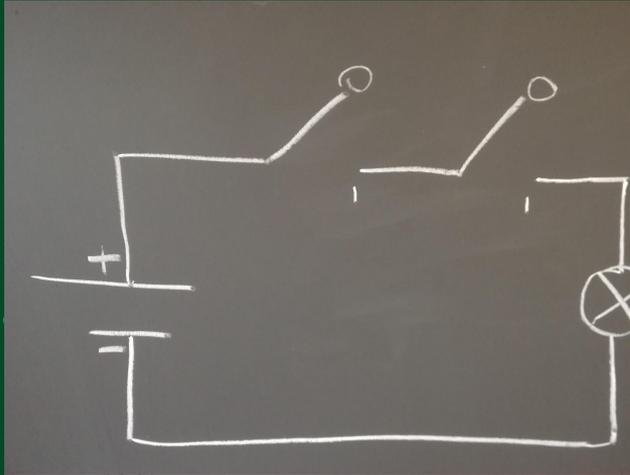
“XOR”

XOR	F	V
F	F	V
V	V	F

Sono gli operatori logici utilizzati dai calcolatori, ognuno dei quali è vero o falso a seconda dei propri criteri.

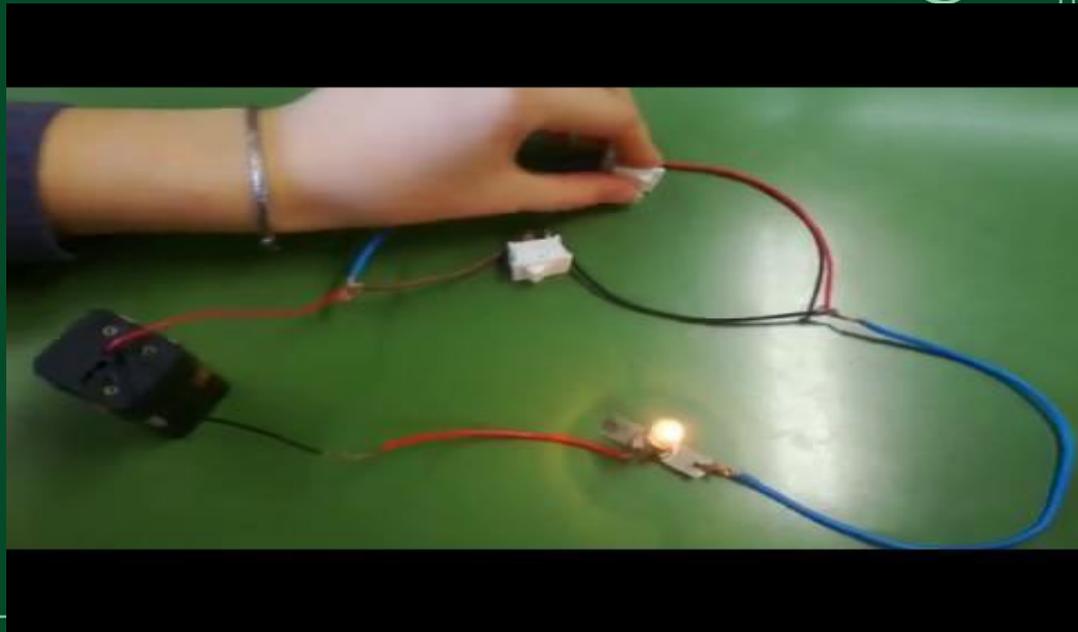
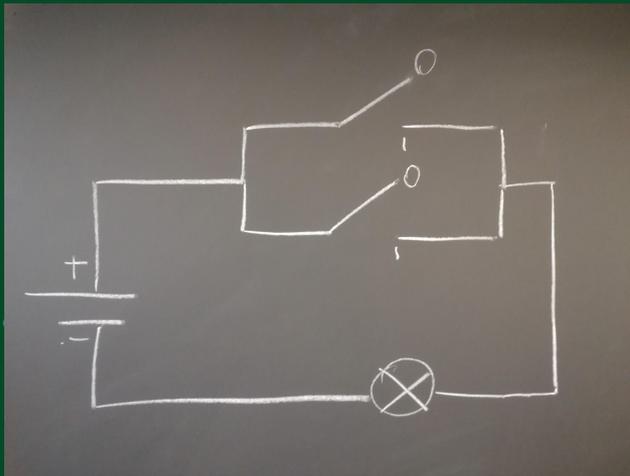


# CIRCUITI "AND"



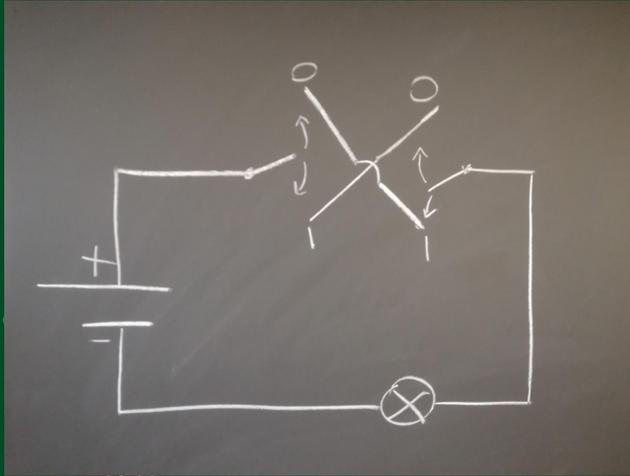
Due interruttori in serie

# CIRCUITI "OR"

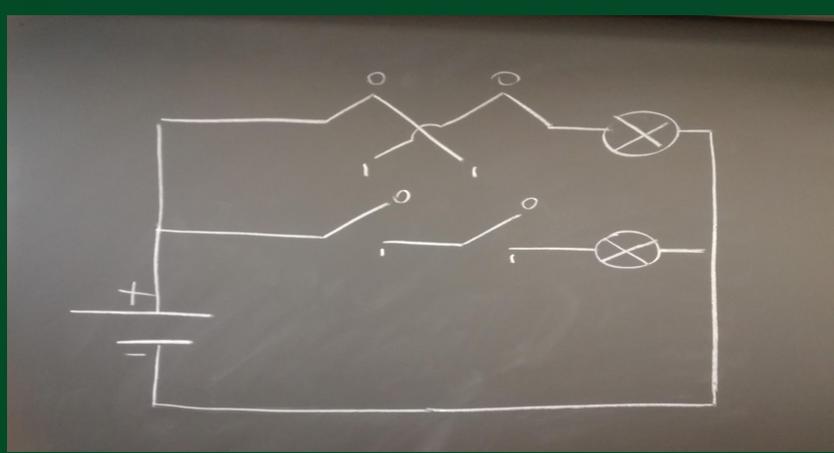


Due interruttori in parallelo

# CIRCUITI "XOR"

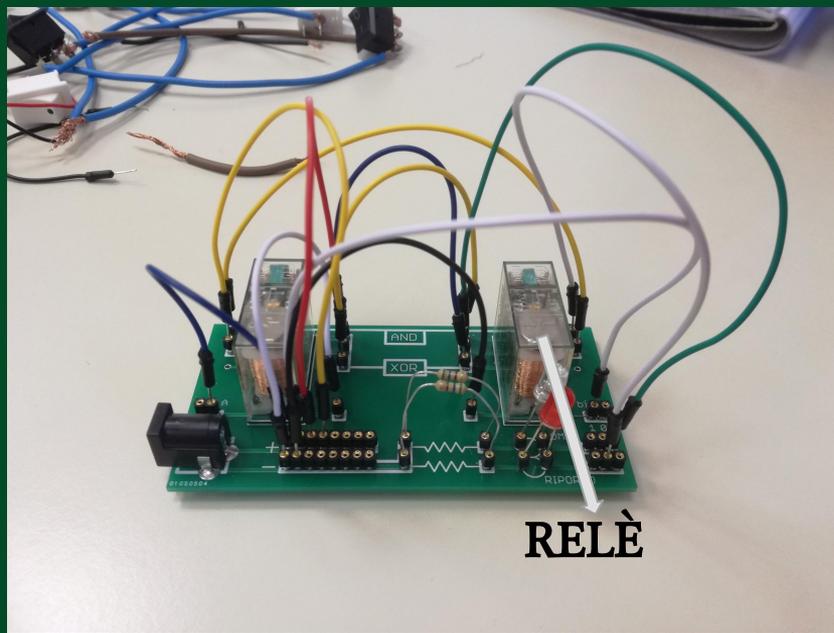


Due deviatori incrociati

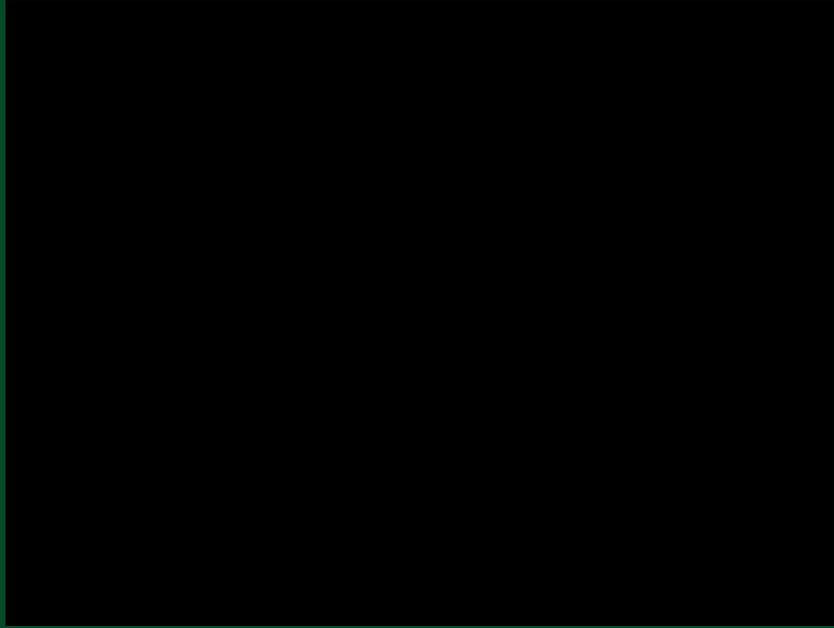


# HALF ADDER

CALCOLATORE CHE PUÒ  
SOMMARE DUE NUMERI  
COMPOSTI DA UNA SOLA CIFRA IN  
CODICE BINARIO

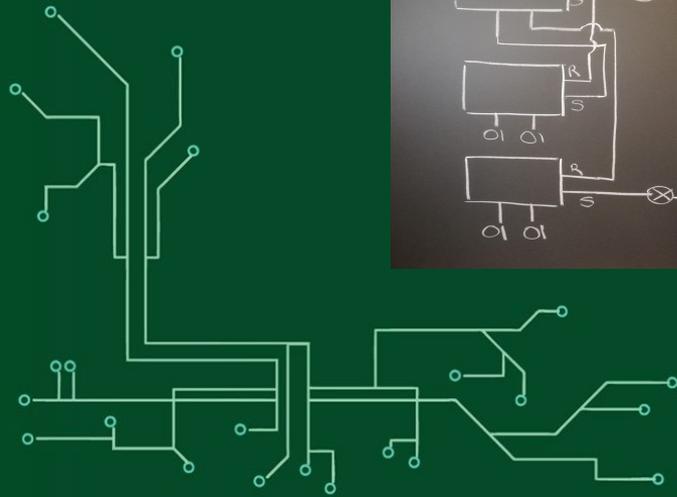
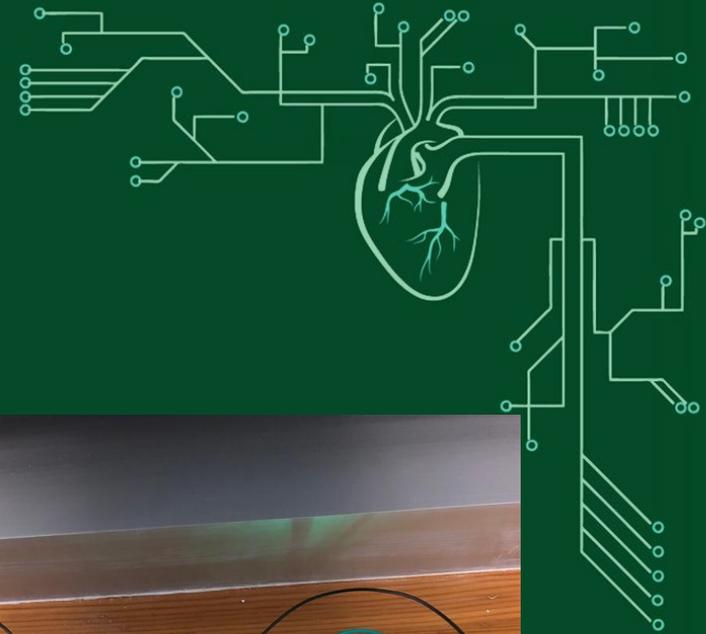
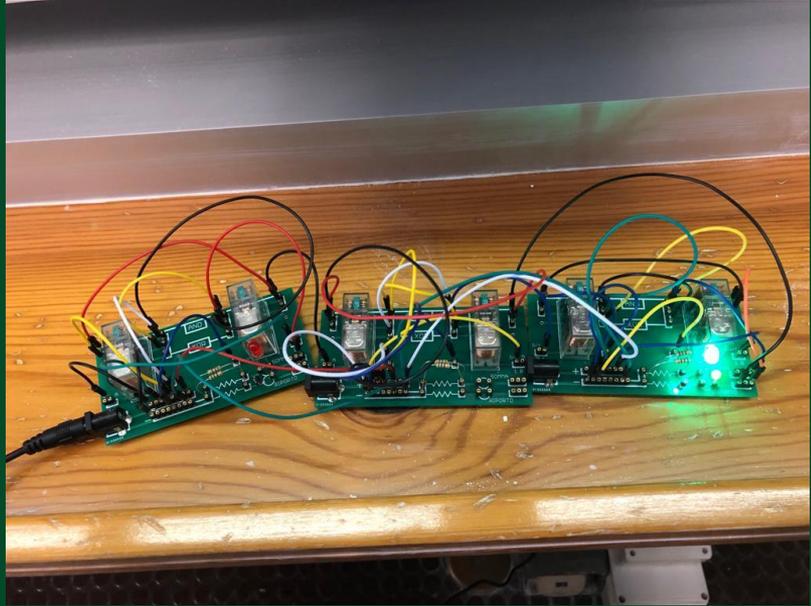
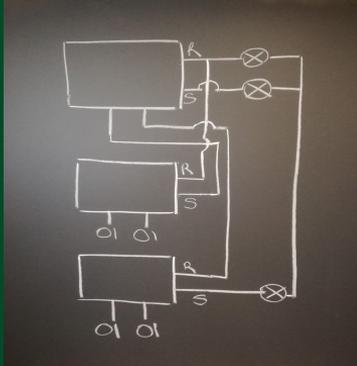


RELE

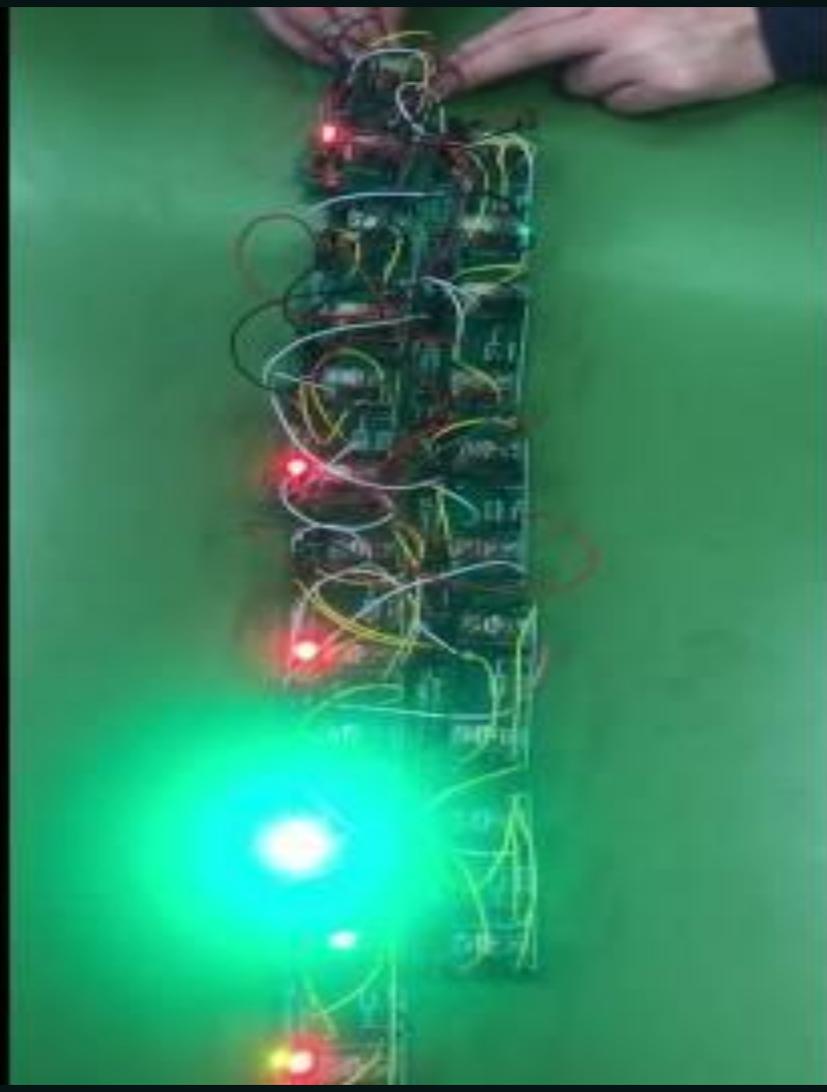


# FULL ADDER

MEDIANTE L'UNIONE DI 3 HALF ADDER È POSSIBILE FORMARE UN FULL ADDER, CAPACE DI SOMMARE DUE NUMERI DI DUE CIFRE.

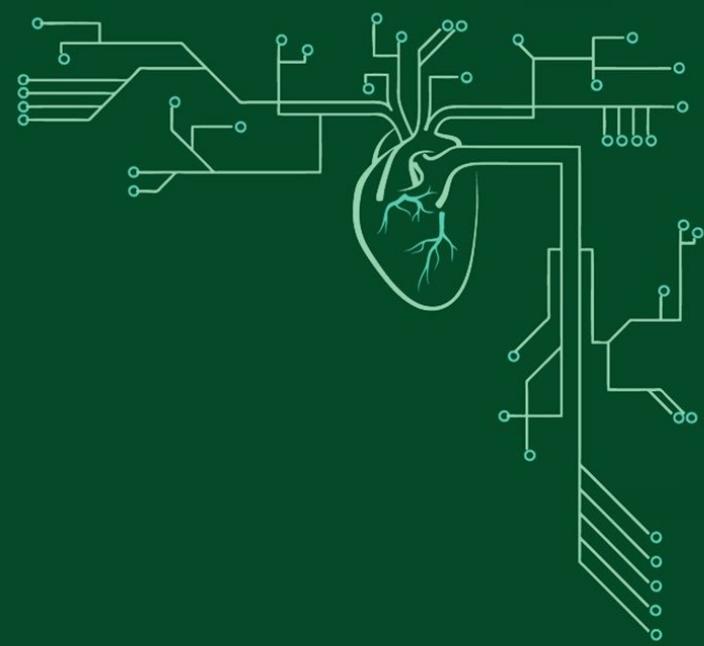
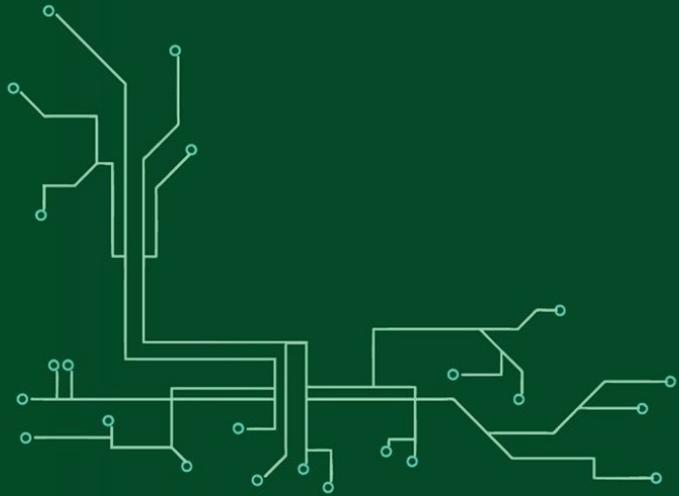








LEONARDO  
VINCENZO  
ANNA MARIA  
VALENTINA  
CLAUDIA  
LORENZO  
VALERIO  
NICOLAE  
MARTA



Grazie a tutti.