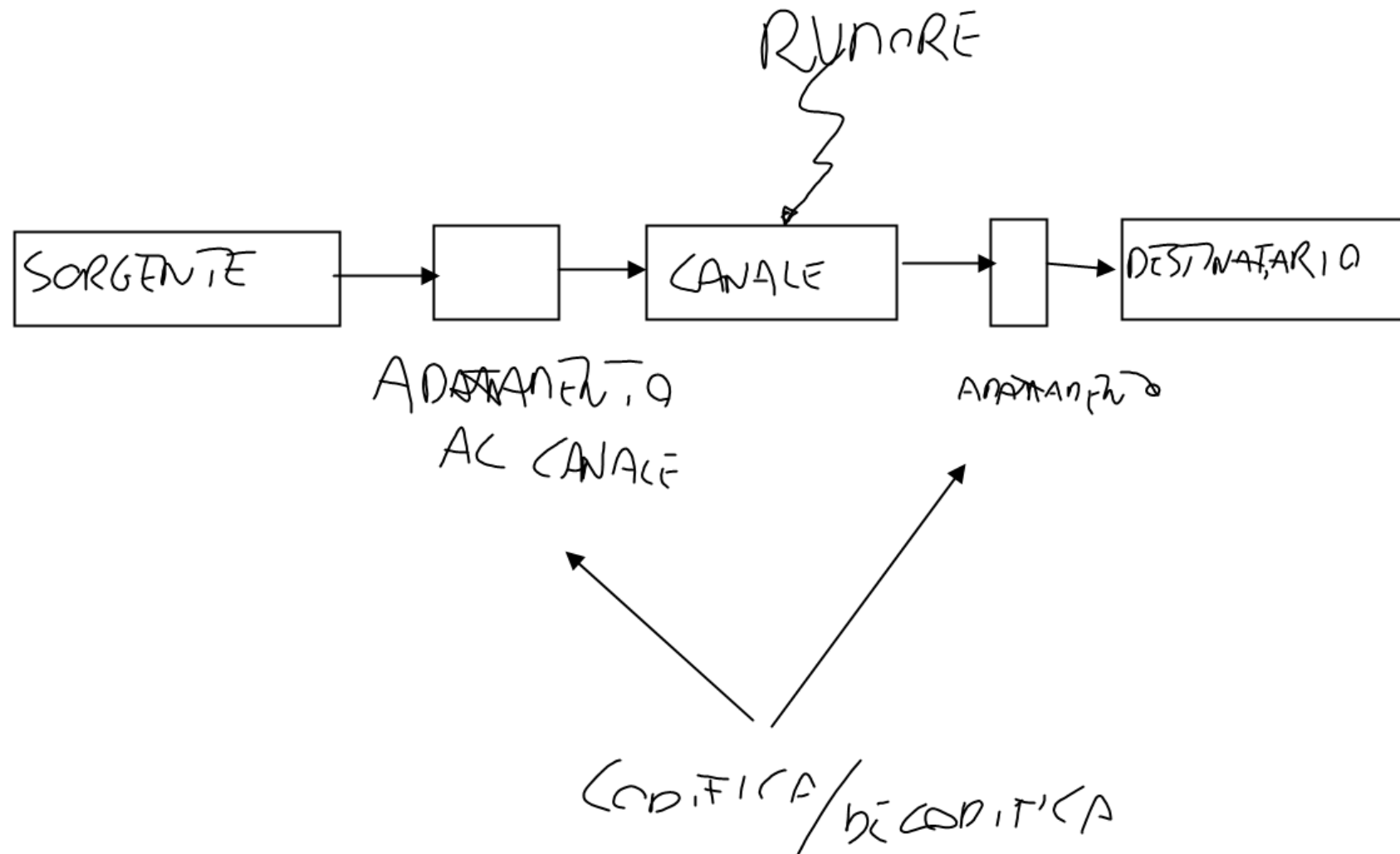


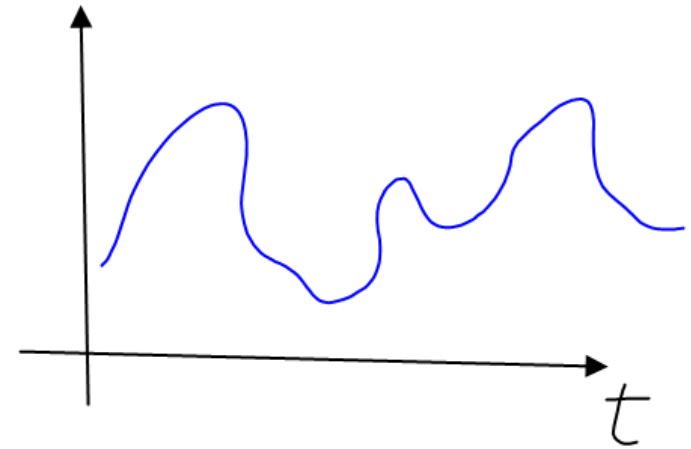
INFORMAZIONE
DATI

COMUNICAZIONE

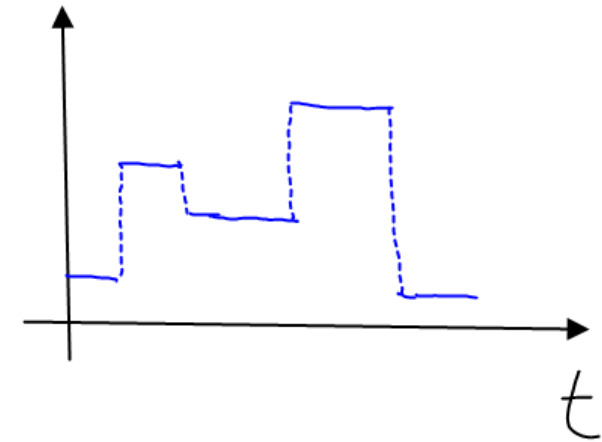
CATENA DI COMUNICAZIONE



ANALOGICO



DIGITALE



CODIFICA DELLE INFORMAZIONI

unità di informazione

1 bit

bit

→ 2 valori
bimario
binary digit

cifra che può avere due valori

0
1

0 0
0 1
1 0
1 1

0 0 0
0 0 1
0 1 0
0 1 1
1 0 0
1 0 1
1 1 0
1 1 1

0 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 0 0 0
1 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 bit
2 valori

2 bit
4 valori

3 bit
8 valori

4 bit
16 valori

In generale
con n bit
si hanno a disposizione
 2^n combinazioni (valori)

$$\begin{aligned}
 2^0 &= 1 \\
 2^1 &= 2 \\
 2^2 &= 4 \\
 2^3 &= 8 \\
 2^4 &= 16 \\
 2^5 &= 32 \\
 2^6 &= 64
 \end{aligned}$$

$$\begin{aligned}
 2^7 &= 128 \\
 2^8 &= 256 \\
 2^9 &= 512 \\
 2^{10} &= 1024
 \end{aligned}$$

CODIFICA

RAPPRESENTAZIONE
DI DATI
PRIVO
DI ALGEBRA

NUMERAZIONE

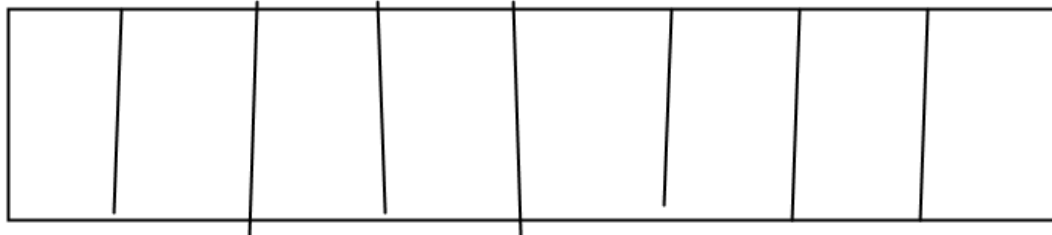
RAPPRESENTAZIONE
DI
NUMERI,
ESISTE
UN'ALGEBRA

111
1 000
1 111

7
8
15

base 8 octal	base 10	binario	base 16 HEX
0	0	0	0
1	1	1	1
2	2	10	2
3	3	11	3
4	4	100	4
5	5	101	5
6	6	110	6
7	7	111	7
10	8	1000	8
11	9	1001	9
12	10	1010	A

1 byte $\rightarrow$ 8 bit

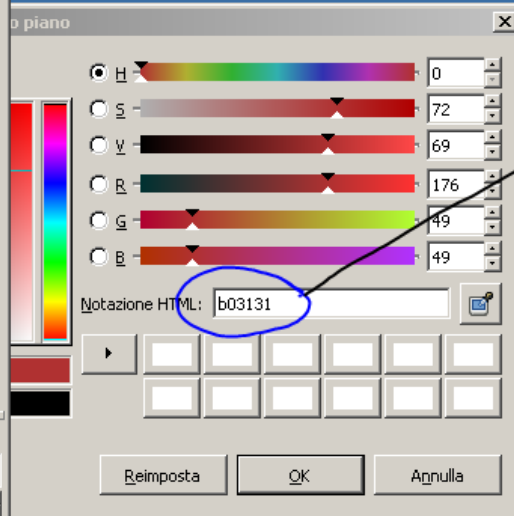
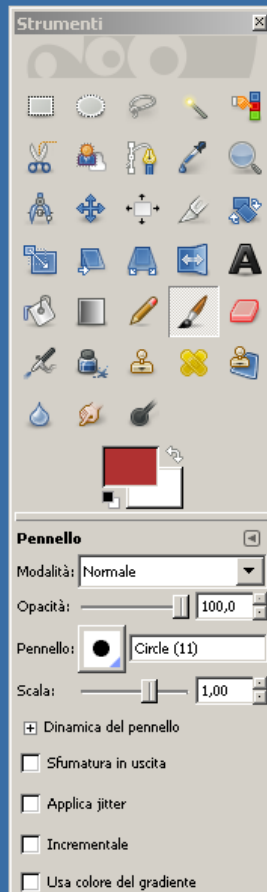


4 bit
1 byte Hex

4 bit
1 byte Hex

$\underbrace{0110}_{6} \quad \underbrace{0011}_{3}$

$\underbrace{1001}_9 \quad \underbrace{1110}_E$



64 bit
external
24 bit

Handwritten notes on a blue background showing the following sequence of numbers and symbols:

6 0 3 1 2

10110000 00110001 00110001 00110001 00110001

Sp

