1) Numerazione binaria

Algoritmo da base 10 a base k

↳ ALG. Della Divisione

387_{10} | k = 2

193	2
1	96
	48
0	24
	12
0	6
	3
0	1
	0
1	

∞

$000 \ldots 0 \; 110000011_2$

$$8\,7\,6\,5\,4\,3\,2\,1\,0$$
$$1\,1\,0\,0\,0\,0\,0\,1\,1_2 = \;?_{10}$$

$$D = \sum_{i=0}^{n-1} A_i \cdot B^i$$

$$4\,3\,2\,1\,0$$
$$00417_{10} = 7\cdot\underbrace{10^0}_{1} + 1\cdot\underbrace{10^1}_{10} + 4\cdot\underbrace{10^2}_{100} + 0\cdot 10^3$$

$$400 + 10 + 7$$

$$D = 1\cdot\underbrace{2^0}_{1} + 1\cdot\underbrace{2^1}_{2} + \underbrace{0\cdot 2^2 + \cdots 0\cdot 2^6}_{4,\ 8,\ 16,\ 32,\ 64} + 1\cdot\underbrace{2^7}_{128} + 1\cdot\underbrace{2^8}_{256}$$

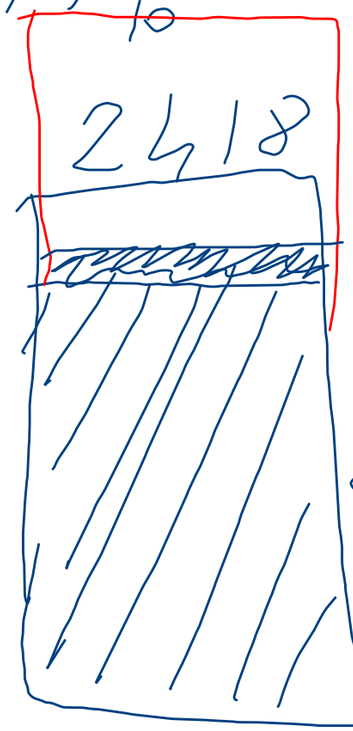
$$1 + 2 + 0 \cdots 0 + 128 + 256 = 387_{10}$$

Scoruatoie

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

128 32 16 4 1 0 1 = Σ = 1717$_{10}$

10 14 5n



2418_{10} = (11) 100101110010

2048 256 64 32 16 2

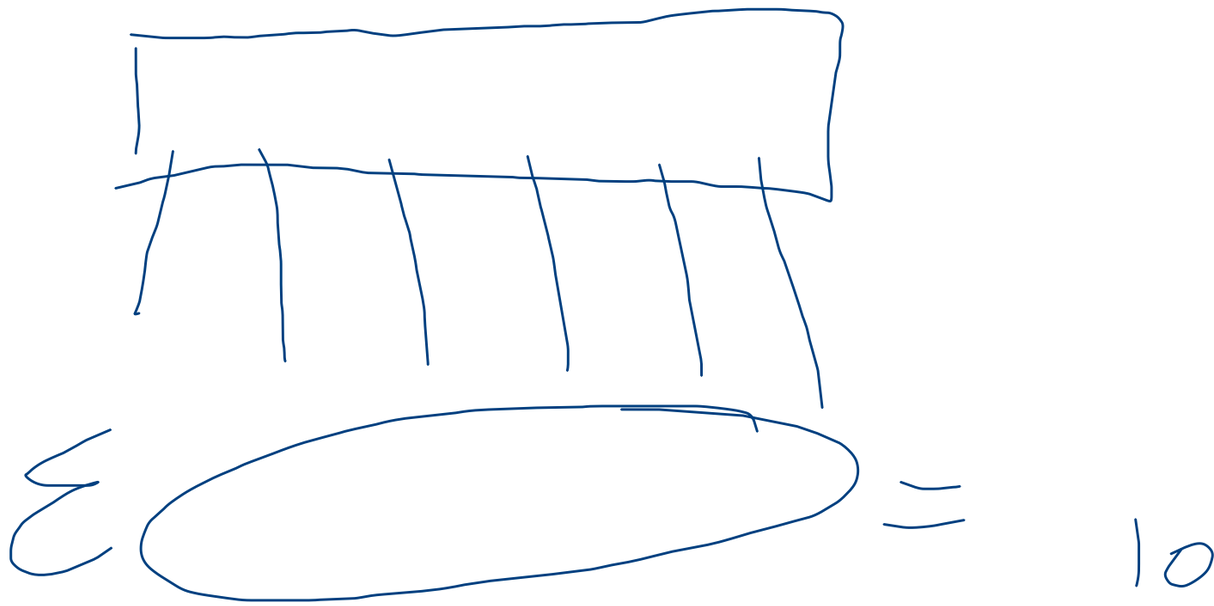
2418 - 2048 = 370 - 256 = 114

114 - 64 = 50 - 32 = 18

18 - 16 = 2

Potenze del 2

0	1
1	2
2	4
3	8
4	16
5	32
6	64
7	128
8	256
9	512
10	1024
11	2048
12	4096
13	8192
14	16384
15	32768
16	64 ...



Passaggio da base binaria a base 2^k

$k=1 \Rightarrow 2$

$k=2 \Rightarrow 4$

$k=3 \Rightarrow 8$

$k=4 \Rightarrow 16$

$1100100_2 \xrightarrow{k=4} C9_{16}$

$10 \Rightarrow 201_{10}$

$FF_{16} \longrightarrow 11111111_2 = 255_{10}$

$256 = 2^8 \leftarrow 100000000$ (1+)