

Subiect 2

Aline Brinze
Info, an I.

$$X_{hex} = 43 + D3\ 0B0$$

$$X_{hex} = X_2 = \underbrace{0, 000, 0011}_{X_3} \underbrace{10001, 1101, 0011}_{X_E} \underbrace{0000, 1011}_{X_M}$$

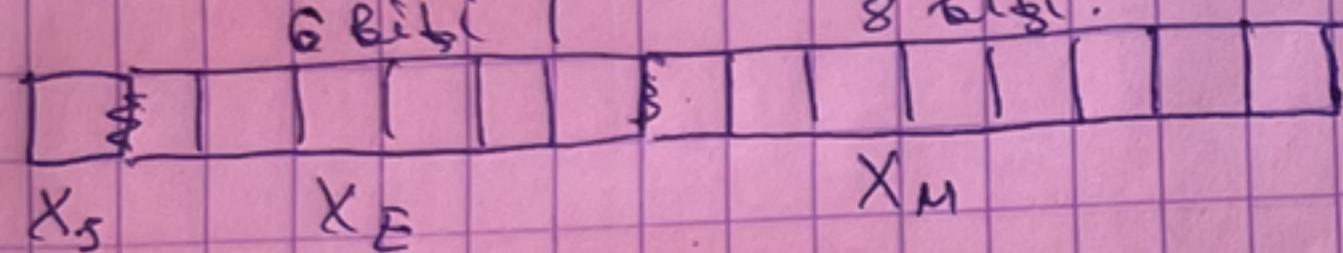
$$67 = X_E \Rightarrow X_E - 64 = 3$$

$$X_{IBM} = (-1) \cdot 16^3 \cdot 0, \underbrace{000}_{1} \underbrace{1101}_{0000} \underbrace{1011}_{0000} =$$

$$= +111010011, 00001011 \Leftrightarrow$$

$$X_{10} = +467, 04296875 \text{ } 10.$$

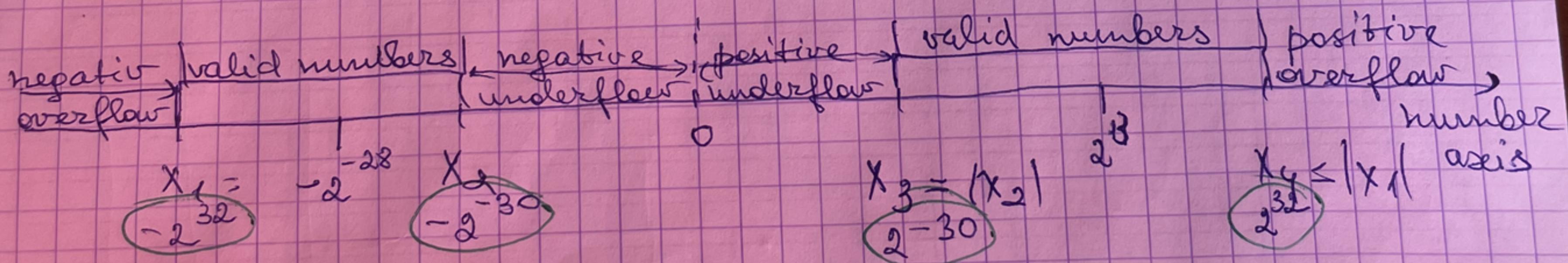
1) Format ipotetic



- sign - 0, pentru numere > 0
- \ 1, pentru numere < 0

- exp.
 - 6 bits
 - bias $= 2^5 - 1 = 31$
 - poate avea valori de la 1 la 63
 - 0 și 63 sunt speciale
 - \ \ down arrow
 - denomin NaN

- mantisa \rightarrow normalizarea conduce la "hidden bit"



$$x_1 = [1]_1 1 1 1 0 1 1 1 1 1 1 1 1$$

$$x_1 = (-1)^1 \cdot 2^{62-31} \cdot (1 + \frac{1}{2} + \frac{1}{4} + \dots + \frac{1}{2^{28}}) = -2^{31} \cdot \frac{512}{256} \approx$$

$$= -2^{32} = -10^{9,6}$$

10...3

32...2e

$x = 9,6$

$$x_2 = [1]_0 0 0 0 0 1 0 0 0 0 0 0 0 0 0$$

10...3

-30...-x

$x = -9$

$$x_2 = (-1)^1 \cdot 2^{1-31} \cdot (1 + 0 + 0 + 0 + \dots + 0) = -2^{-30} = -10^{-9}$$