

1 Bit

8 Bit

\rightarrow

1 Byte

1024 Byte

\rightarrow

1 kB $\rightarrow 2^{10}$

1024 kB

\rightarrow

1 MB $\rightarrow 2^{20}$

1024 MB

\rightarrow

1 GB $\rightarrow 2^{30}$

1024 GB

\rightarrow

1 TB $\rightarrow 2^{40}$

1024 TB

\rightarrow

1 PB $\rightarrow 2^{50}$

1024 PB

\rightarrow

1 EB $\rightarrow 2^{60}$

2^0

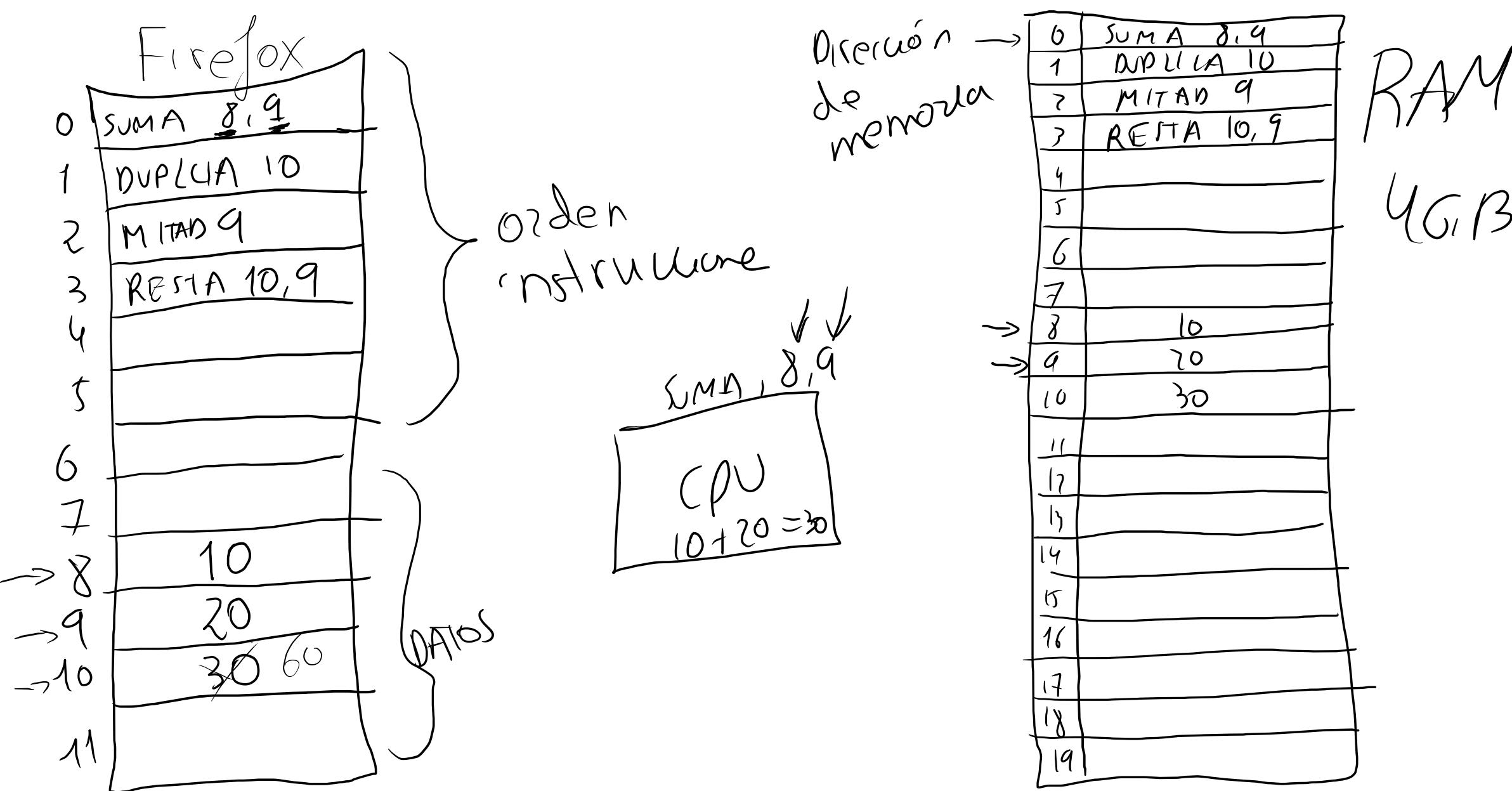
1

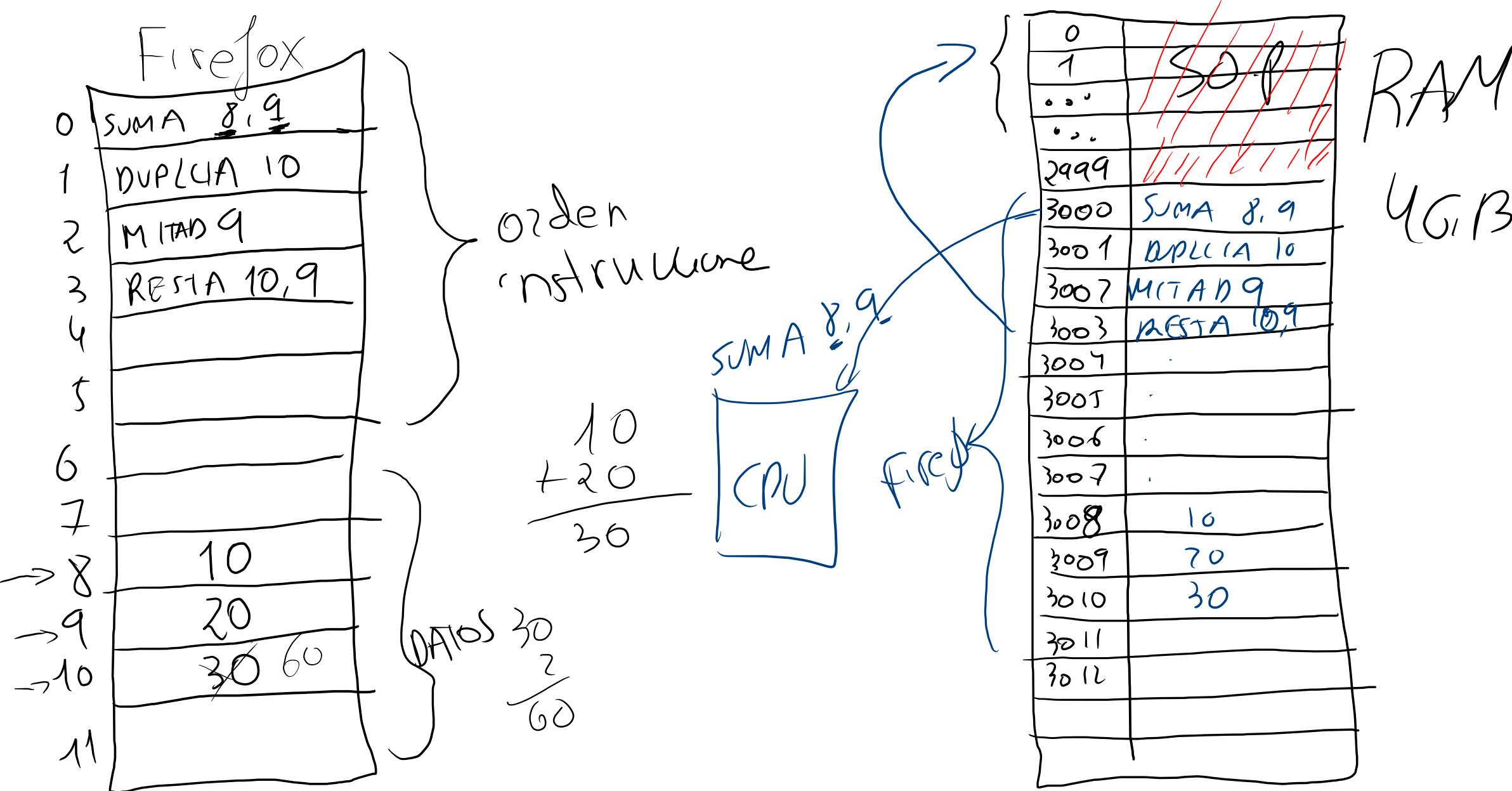
16 8 4 2 1

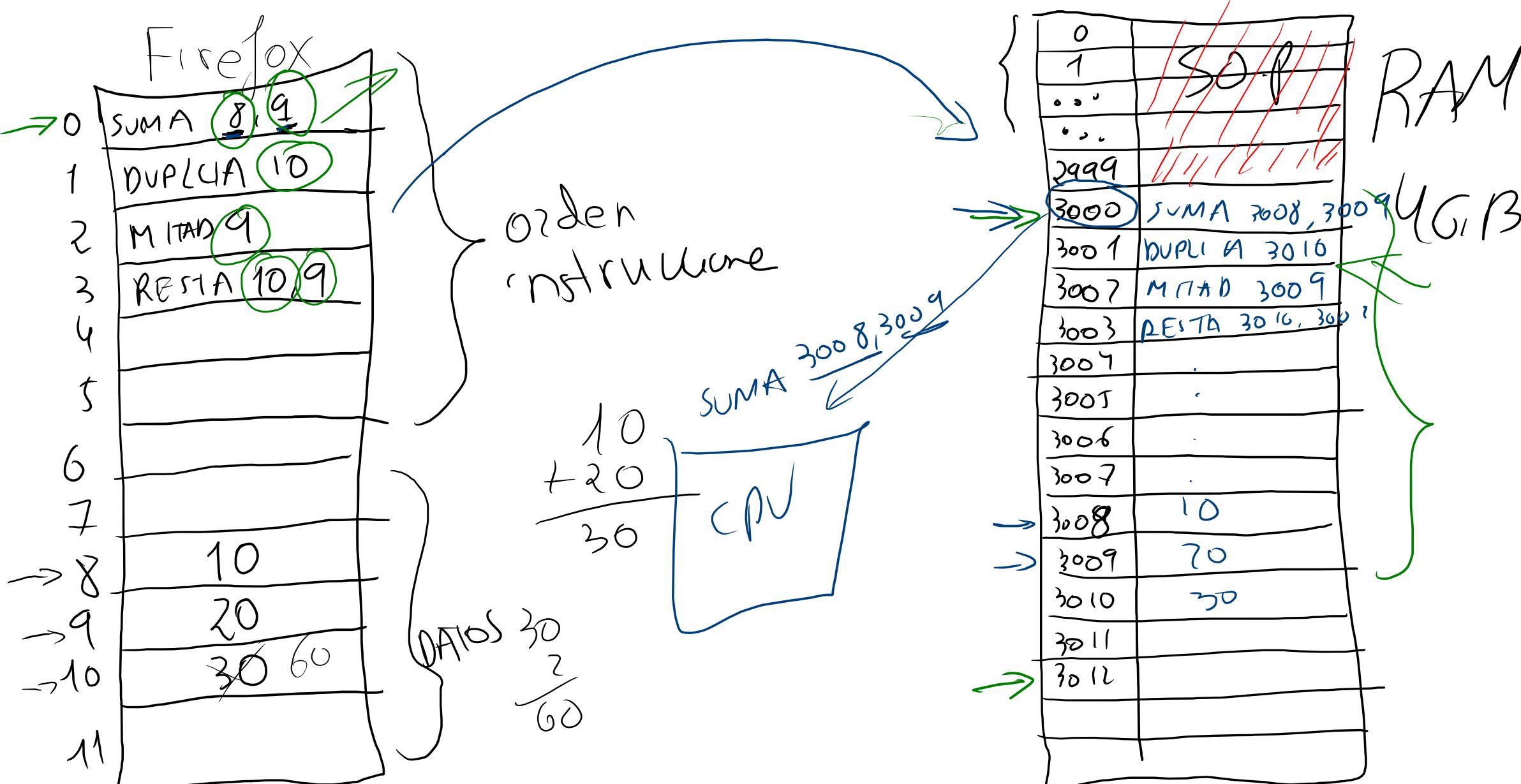
4 GiB = {
32

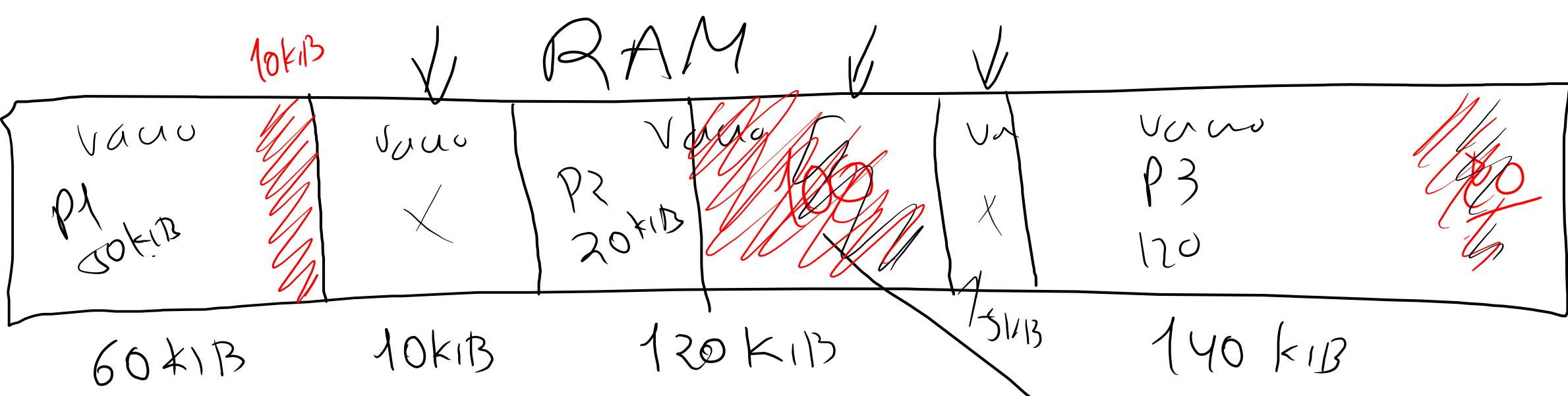
$2^2 * 2^{30} = 2^{32}$

~~64~~
 $2^{64} = 2^{60} * 2^4 = 16 \text{ EiB}$









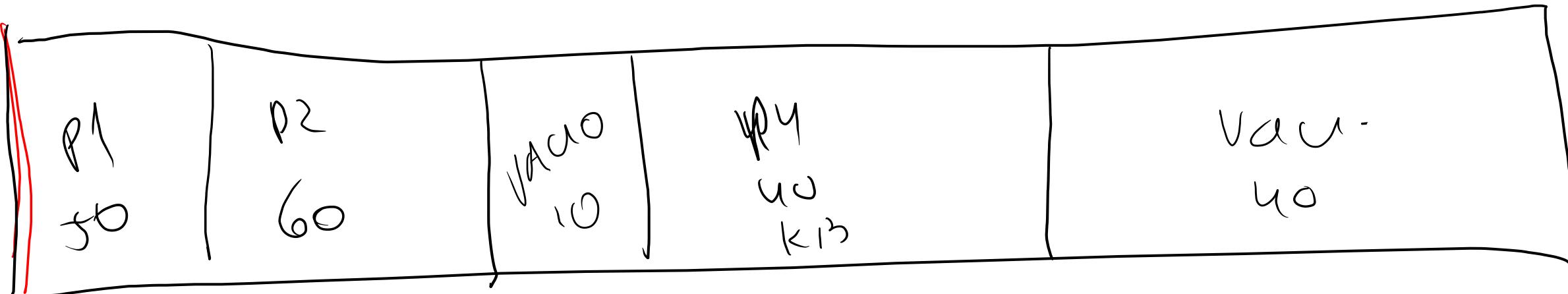
P1 (50 kB)

P2 (20 kB)

P3 (120 kB)

P4 (50 kB)

Fragmentação
Internacional



P1 (50 kIB)

P2 (60 kIB)

~~P3 (10 kIB)~~

80 kIB

PY (40 kIB)

P5 (50 kIB)

Frag.
externa

RAM

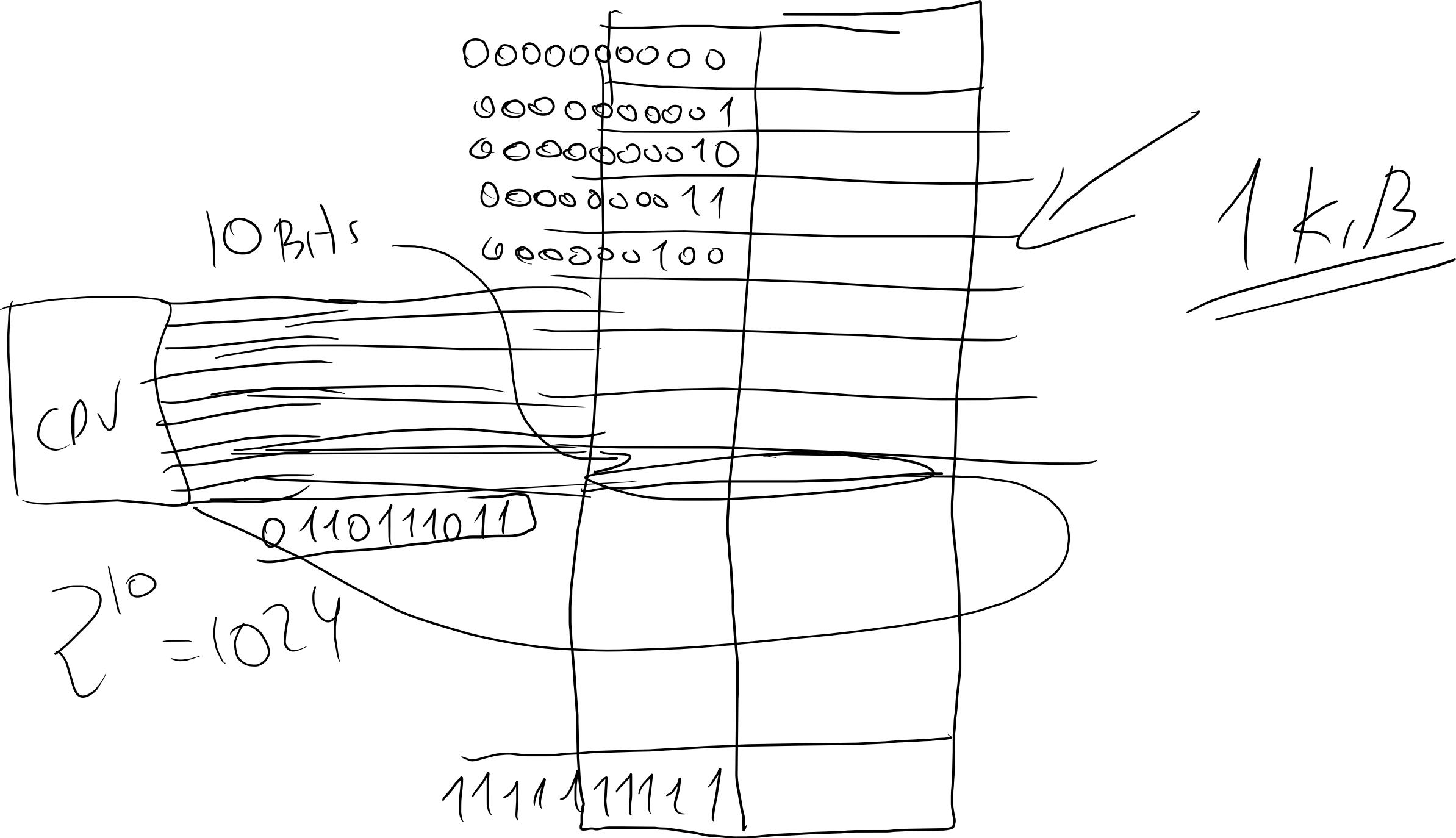
000		1
001		2
010		3
011		4
100		5
101	SUMA 3,8	6
110		7
111		8

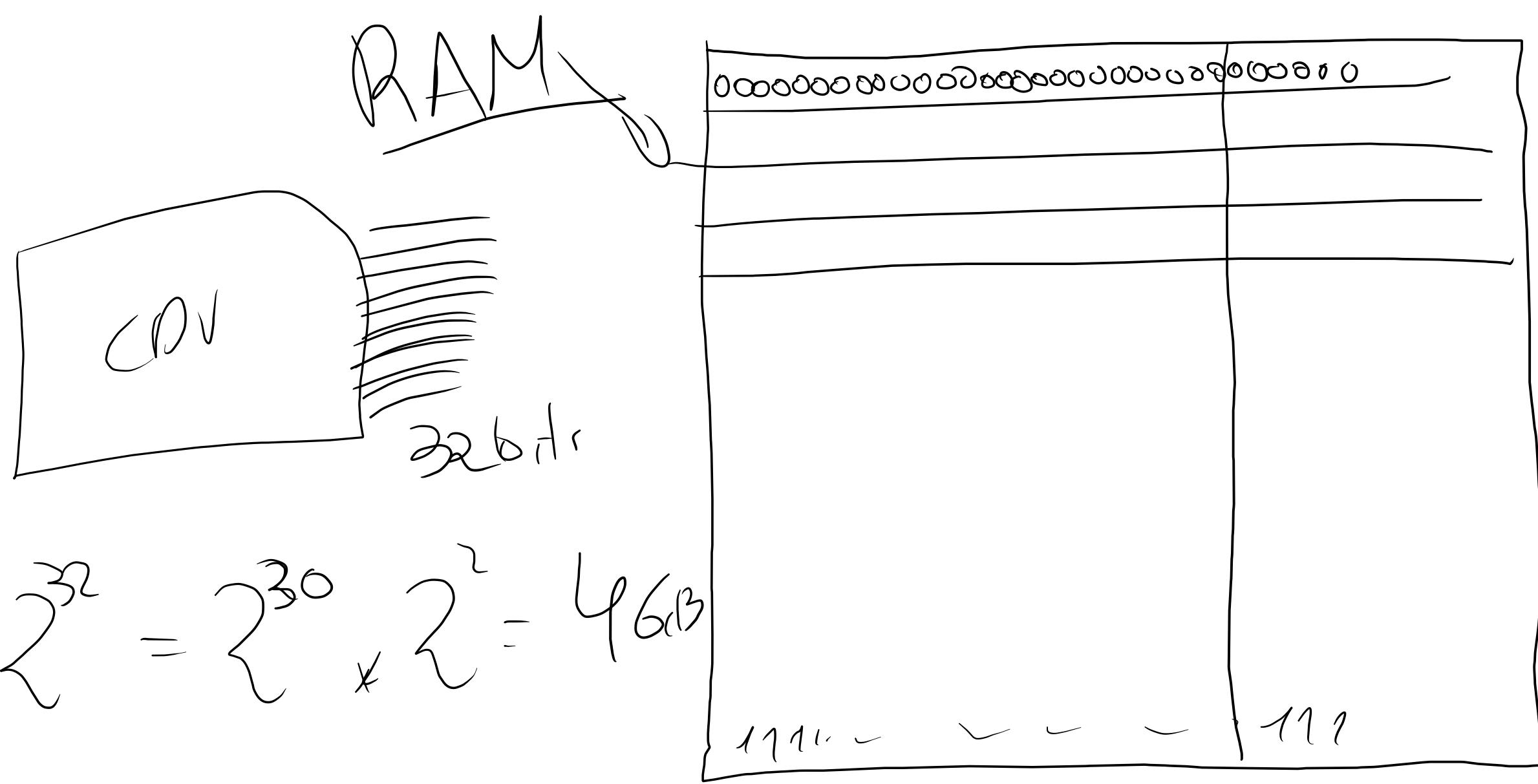
101

Intel i3
(PU
AMDRyzen)

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

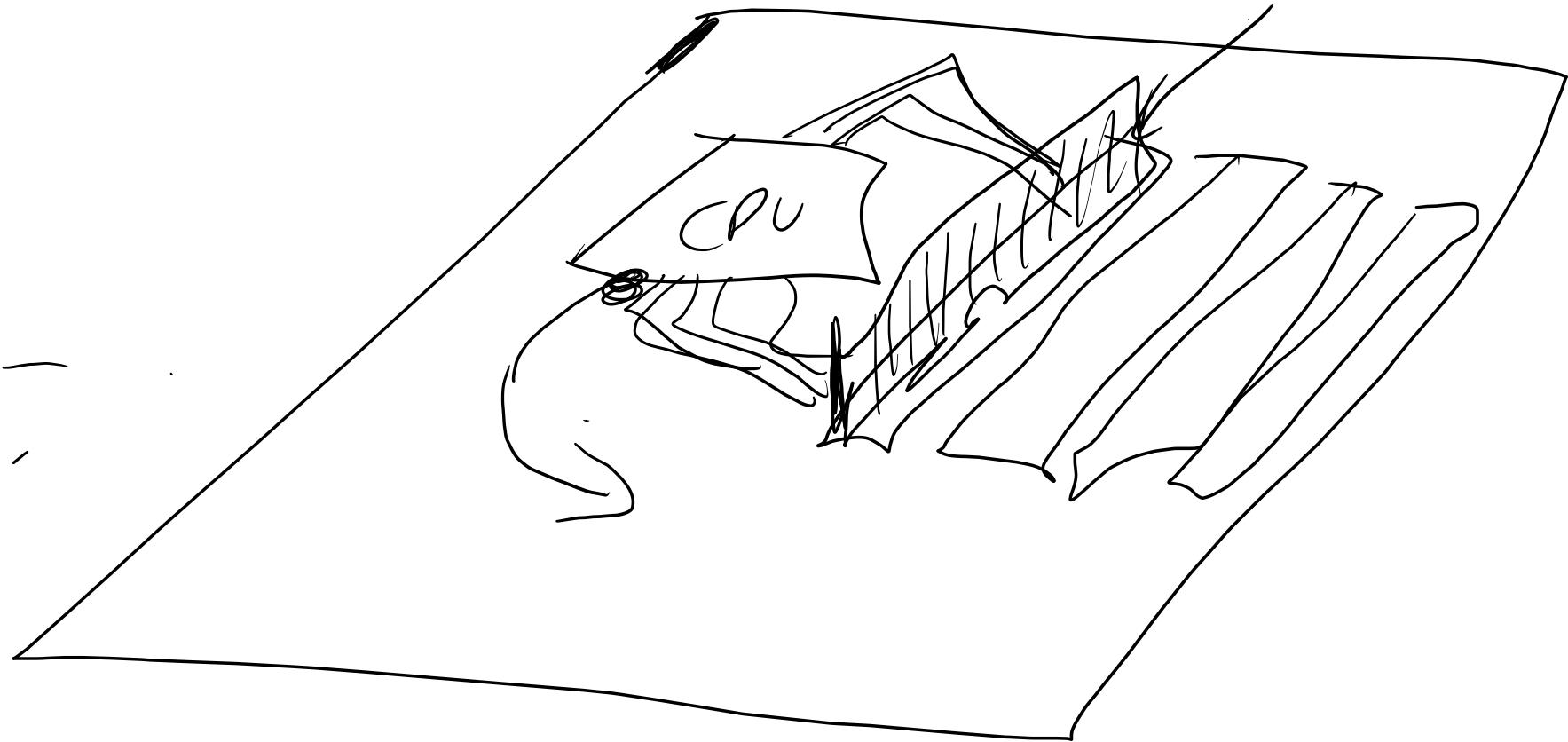
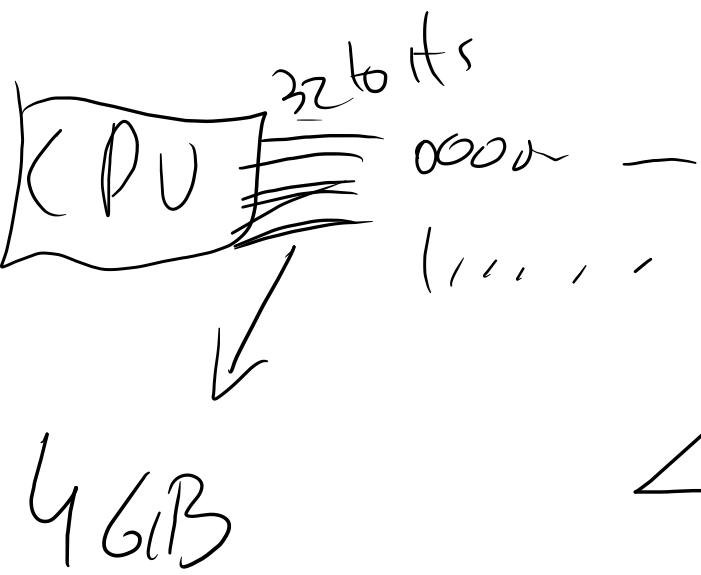
$$2^3 = 8$$

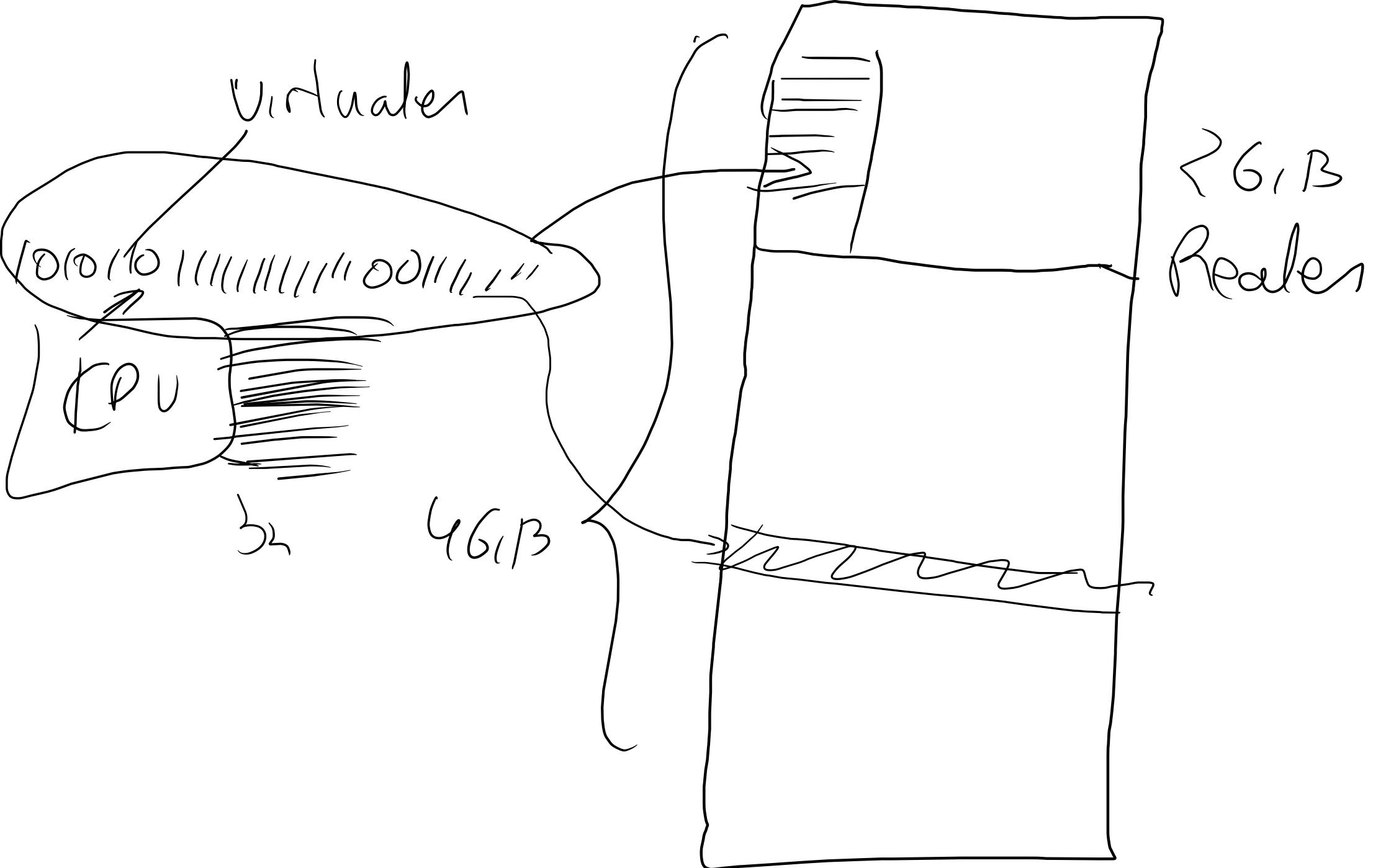




$$2^{32} = 2^{30} \times 2^2 = 4 \text{ GB}$$

Modulo 2 G,B





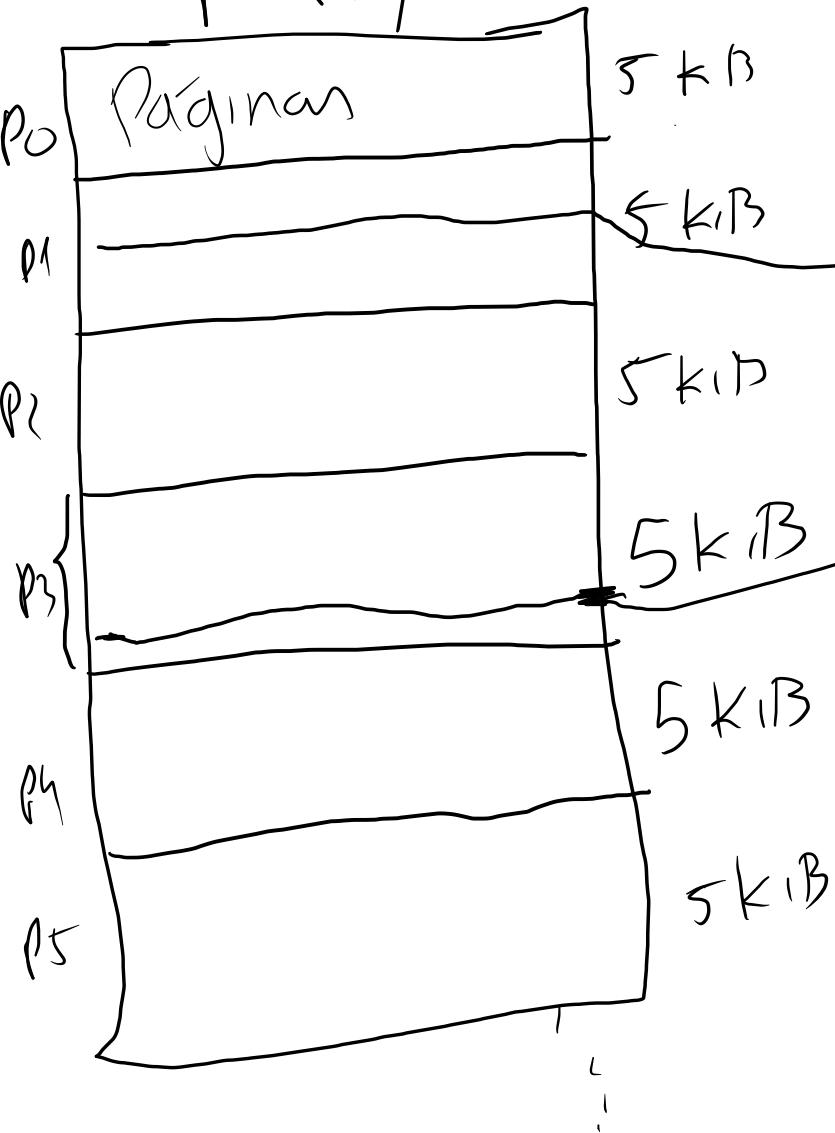
$$\underline{32 \text{ bits}} \rightarrow 2^{30} \times 2^2 = 46, B \quad \xrightarrow{\text{Max}} 64_{6,B}$$

$$33 \text{ bits} \rightarrow 2^{30} \times 2^3 = 86, B$$

$$\left. \begin{array}{l} 34 \text{ bits} \\ 35 \\ 36 \\ 37 \end{array} \right\} \rightarrow 2^{30} \times 2^4 = 166, B$$

32
64
128

Firebox



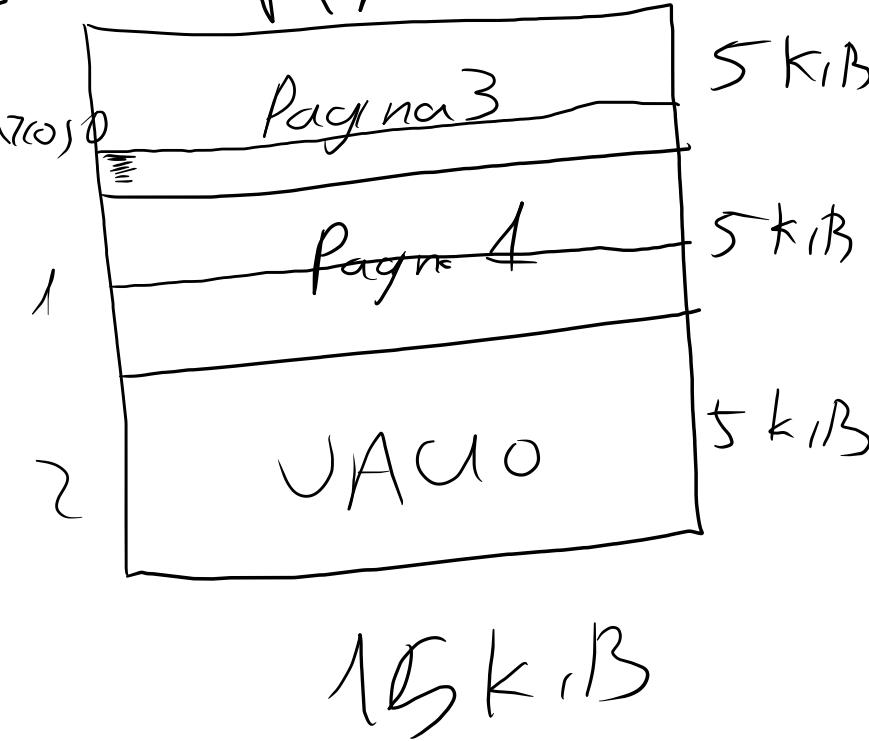
CPU

CPU

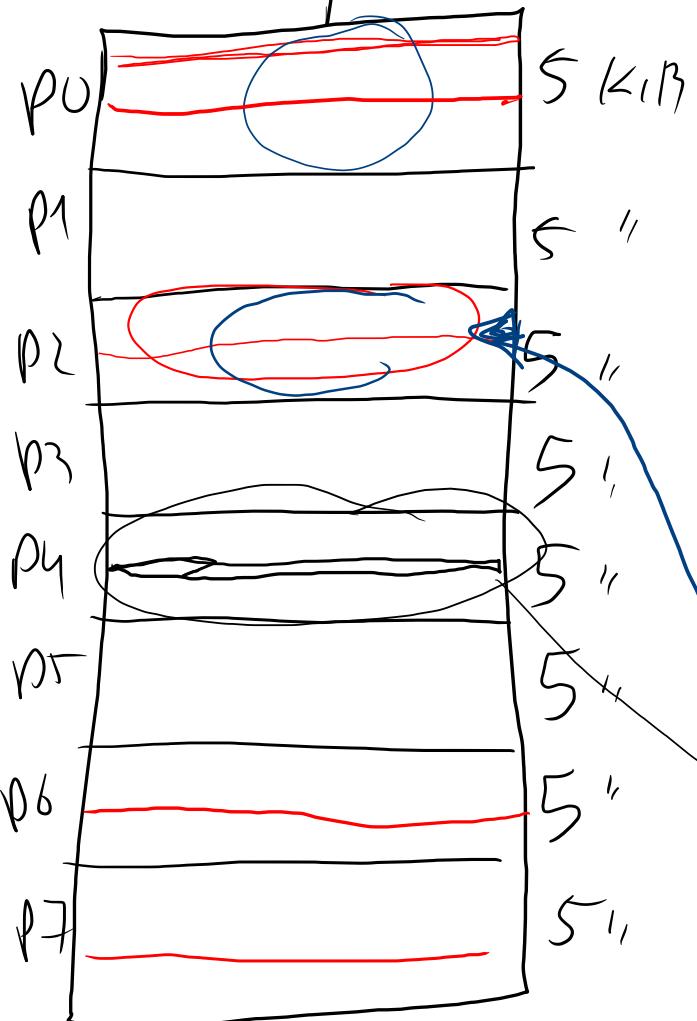
CPU

\equiv 32 bit 4 G.B

RAM



Firebox



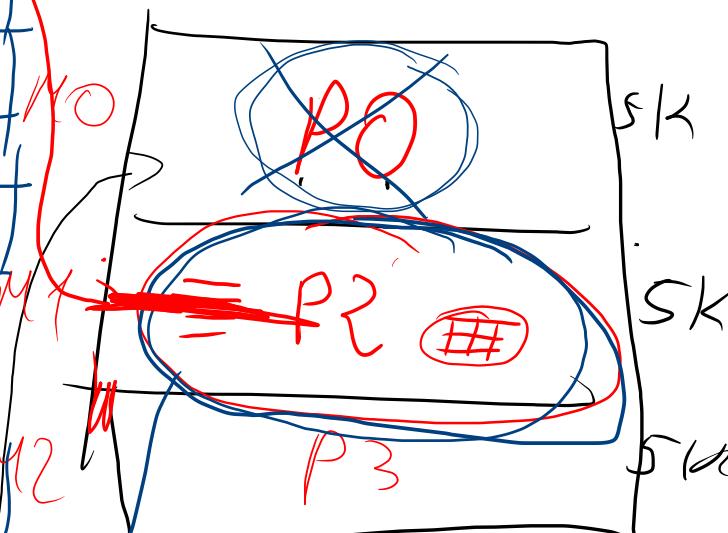
CPU 1011111101111111

TABLA DE PAGINAS

EJEMPLO MARCO MOD

	SI	MO	NO
P0	SI	MO	NO
P1	NO		
P2	SI	M1	SI
P3	NO		
P4	NO		
P5	NO		
P6	SI	M2	NO
P7	NO		

RAM



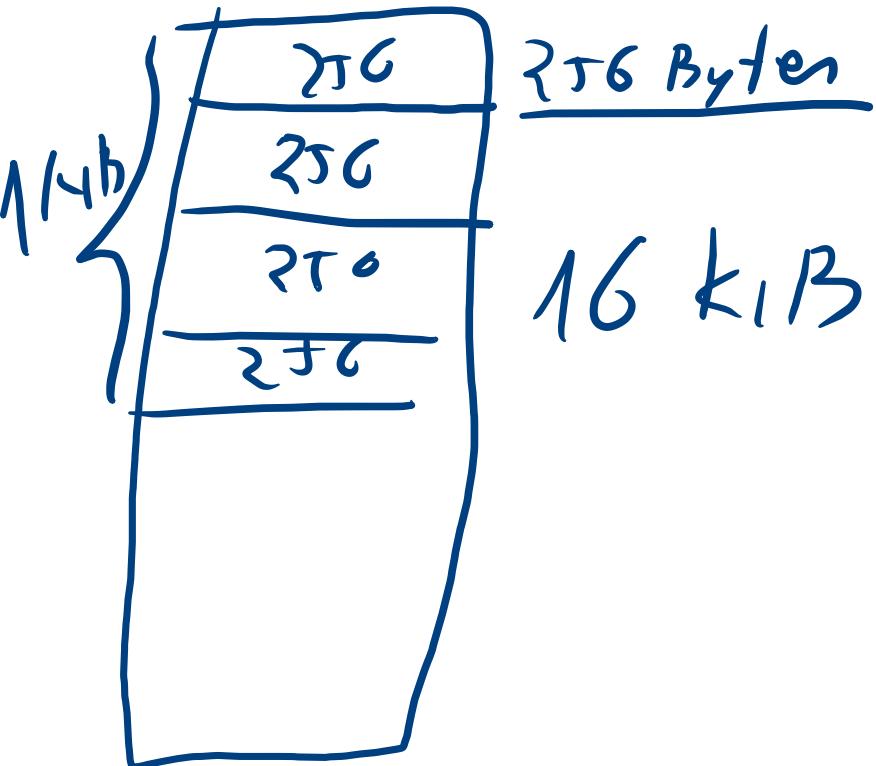
MV 16 kB 2⁰ 128 6 32 16 8 4 2 1

Tamaño de Pag

¿ Cuánto

Paginar

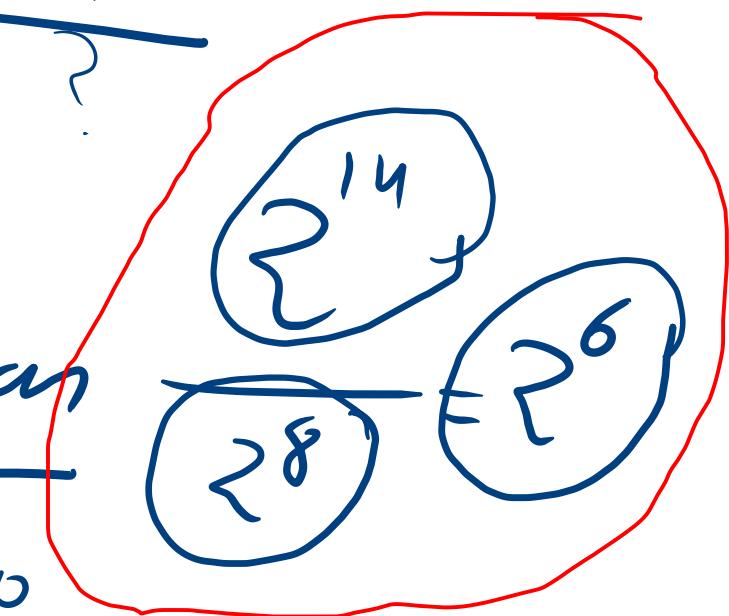
256 Bytes
tengo ?



64 páginas

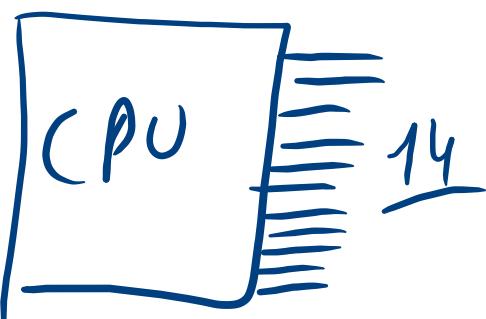
$$1 kB = 2^{10}$$

$$16 kB = 2^{10} * 2^4 = 2^{14}$$

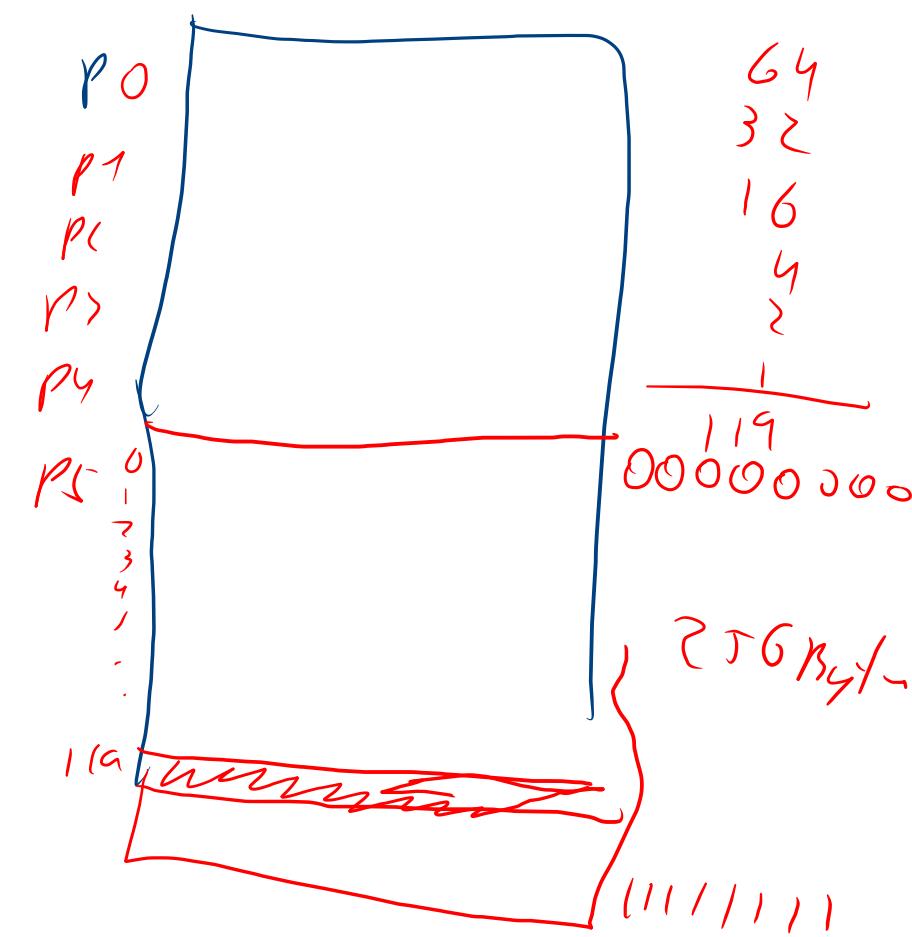
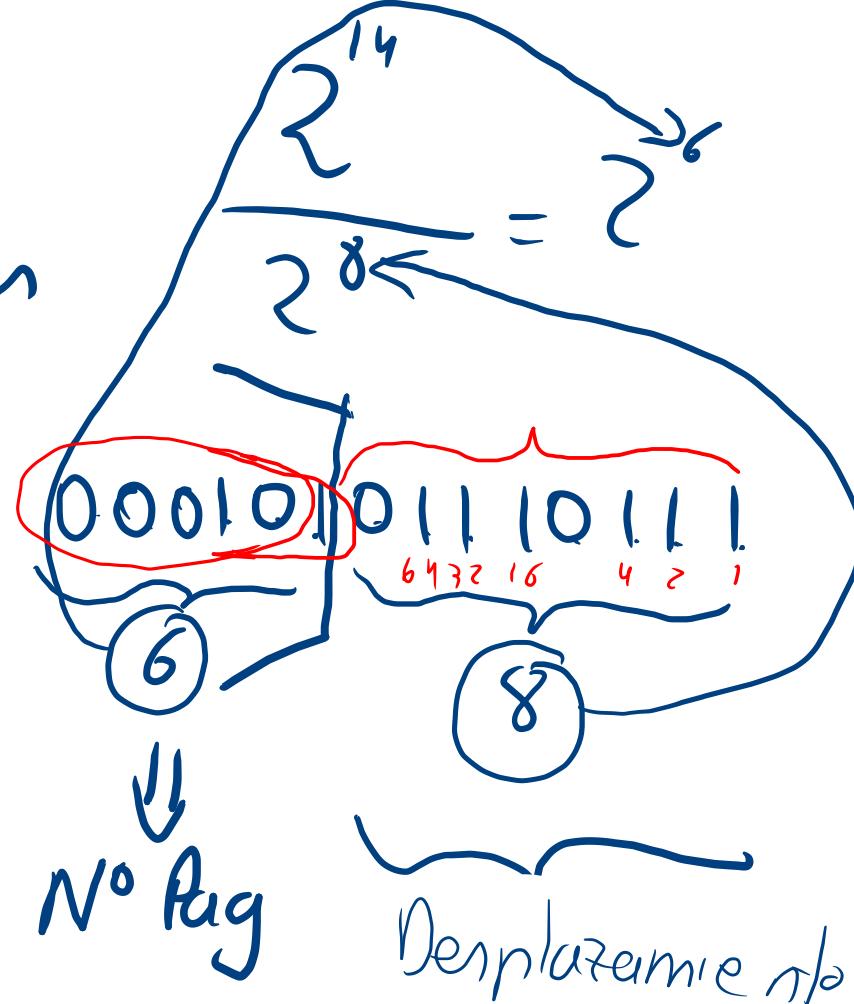


16 kB

Pag 256 Bytes



$$\begin{matrix} 2^{10} \\ \times 2^4 \end{matrix} = 2^{14}$$



RAM 4 kB \rightarrow $2^{10} * 2^2 = 2^{12}$ Direcciones reales

Tamaño de Marco 512 Bytes $\rightarrow 2^9$

MV de 1 MiB $\rightarrow 2^{20}$ Direcciones virtuales

- ¿ Cuántos marcos ?

$\frac{2^{20}}{2^9} = 2^1 = 2^{20-8}$ (Manten página ?)

- ¿ A que página que desplazamiento hace referencia ?

$$\frac{2^{12}}{2^9} = 2^3 = 8 \text{ Marcos}$$

00101011011010101011

512.

517

516

512.

512

512.

512

512

}

1K1

}

1K

1KB

1KB

8 Mar, 08