



Aula Prática 02 – Resolução

1) Qual o decimal equivalente a $(11011011)_2$?

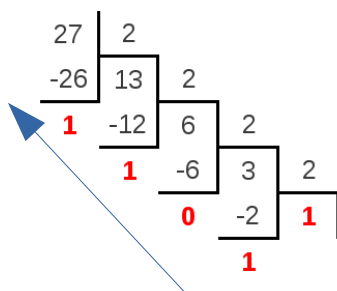
$$11011011_2$$

$$76543210$$

$$2^7 + 2^6 + 2^4 + 2^3 + 2^1 + 2^0 \Rightarrow 128 + 64 + 16 + 8 + 2 + 1 \Rightarrow 219_{10}$$

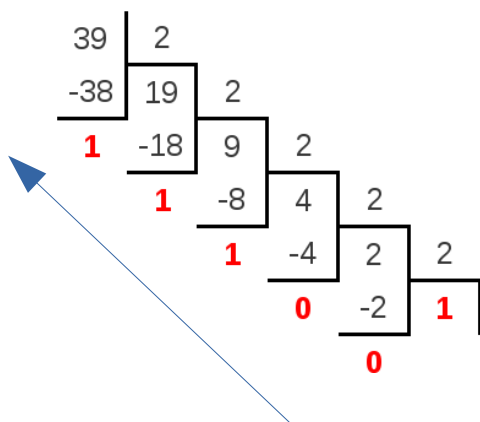
2) Qual o binário equivalente à sua idade?

$$27 \Rightarrow 27_{10} = 11011_2$$

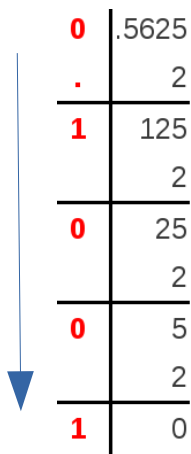


3) Converter os seguintes números decimais para números binários.

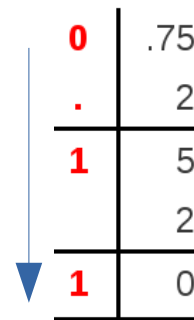
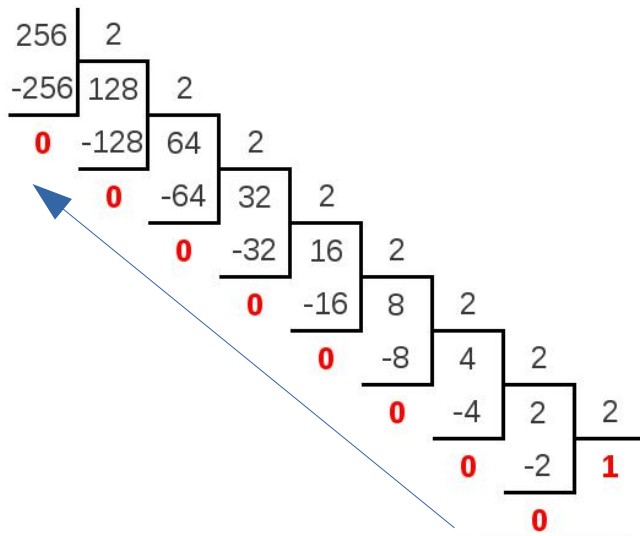
a) $39 \Rightarrow 39_{10} = 100111_2$



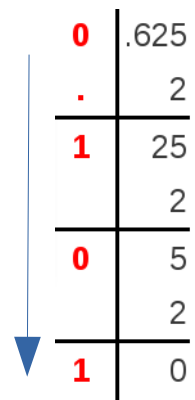
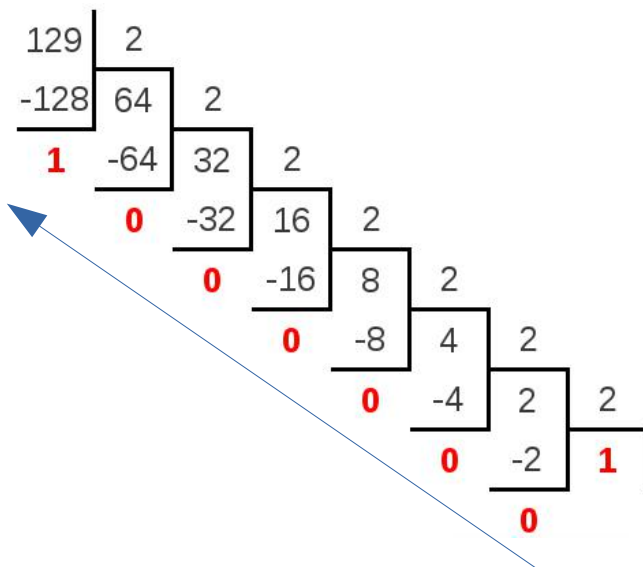
b) $0,5625 \Rightarrow 0,5625_{10} = 0,1001_2$



c) $256,75 \Rightarrow 256,75_{10} = 1\ 0000\ 0000,11_2$



d) $129,625 \Rightarrow 129,625_{10} = 1000\ 0001,101_2$



4) Execute as seguintes operações:

a) $0011 + 1110 \Rightarrow 0011_2 + 1110_2 = 10001_2$

0011_2 é o mesmo que 11_2 , atente a coluna correspondente em grandeza

0	0	1	1
1	1	1	0
+			
1	0	0	0
1			

$$3_{10} + 14_{10} = 17_{10}$$

$$11_2 + 1110_2 = 10001_2$$

b) $1110 - 0100$

0100_2 é o mesmo que 100_2 , atente a coluna correspondente em grandeza

1	1	1	0
0	1	0	0

-

1	0	1	0
---	---	---	---

$$14_{10} - 4_{10} = 10_{10}$$

$$1110_2 - 0100_2 = 1010_2$$

c) $1101101/1011$

1	1	0	1	1	0	1	1	0	1	1	0	1	1	0	1	...				
1	0	1	1							1	0	0	1	.	1	1	1	0	1	...
0	0	1	0	1	0	1														
				1	0	1	1													
				1	0	1	0													
1	0	1	0	0																
	1	0	1	1																
	1	0	0	1	0															
		1	0	1	1															
		0	1	1	1	0														
			1	0	1	1														
			0	0	1	1														
0	0	1	1	0	0															
	1	0	1	1																
	0	0	0	1																
																

$$1101101_2 / 1011_2 = 1001.11101..._2$$

$$109_{10} / 11_{10} = 9,9090..._{10}$$

d) 10011×1101

$$10011_2 \times 1101_2 = 111101111_2$$

$$19_{10} \times 13_{10} = 247_{10}$$

			1	0	0	1	1
		x		1	1	0	1
			1	0	0	1	1
			0	0	0	0	
	1	0	0	1	1		
1	0	0	1	1			
1	1	1	1	0	1	1	1

1. Adição:

$$\text{a. } (1000)_2 + (0110)_2 = (1110)_2$$

$$\text{b. } (1111)_2 + (0111)_2 = (10110)_2$$

2. Subtração:

$$\text{a. } (101101)_2 - (100111)_2 = (000110)_2$$

$$\text{b. } (1001)_2 - (0100)_2 = (0101)_2$$

3. Multiplicação:

$$\text{a. } (1101)_2 * (1011)_2 = (10001111)_2$$

$$\text{b. } (1010)_2 * (101)_2 = (110010)_2$$

4. Divisão:

$$\text{a. } (11001)_2 / (101)_2 = (101)_2$$

$$\text{b. } (110010)_2 / (101)_2 = (1010)_2$$