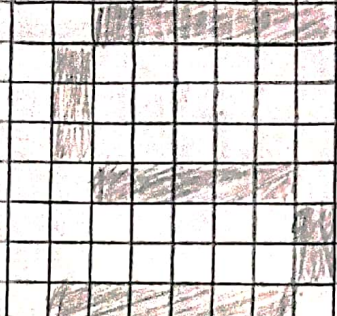
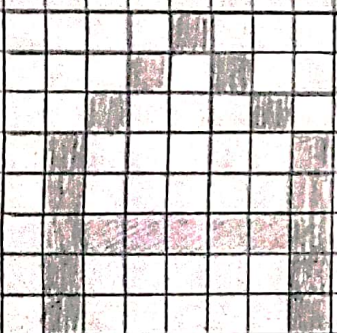


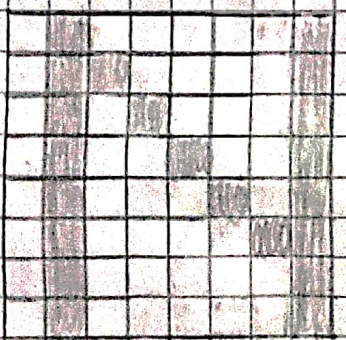
Santiago Runcena Oña 10.10.138.275

Taller Introducción a la Informática

Representación Binaria

	Binario	Hexadecimal
	0 0 1 1 1 1 1 1	3 F
	0 1 0 0 0 0 0 0	4 0
	0 1 0 0 0 0 0 0	4 0
	0 1 0 0 0 0 0 0	4 0
	0 0 1 1 1 1 1 0	3 E
	0 0 0 0 0 0 0 1	0 1
	0 0 0 0 0 0 0 1	0 1
	0 1 1 1 1 1 1 0	7 F

	0 0 0 0 1 0 0 0	0 8
	0 0 0 1 0 1 0 0	1 4
	0 0 1 0 0 0 1 0	2 2
	0 1 0 0 0 0 0 1	4 1
	0 1 0 0 0 0 0 1	4 1
	0 1 1 1 1 1 1 1	7 F
	0 1 0 0 0 0 0 1	4 1
	0 1 0 0 0 0 0 1	4 1

	0 1 0 0 0 0 0 1	4 1
	0 1 1 0 0 0 0 1	6 1
	0 1 0 1 0 0 0 1	5 1
	0 1 0 0 1 0 0 1	4 9
	0 1 0 0 0 1 0 1	4 5
	0 1 0 0 0 0 1 1	4 3
	0 1 0 0 0 0 0 1	4 1
	0 1 0 0 0 0 0 1	4 1

Cambio de Base

DATO	Base 10	Base 8	Base 2	Base 16
832 ₁₀	—	(1500) ₈	(110100000) ₂	(340) ₁₆
471 ₈	(313) ₁₀	—	(100111001) ₂	(141) ₁₆ = 0001 1001 1001
11101001 ₂	(233) ₁₀	(35) ₈	—	(29) ₁₆ = 1101 1001 E 9
F7 ₁₆	(247) ₁₀	(367) ₈	(11110111) ₂	—

OPERACIONES

$$\begin{array}{r}
 532 \overline{) 03210418} \\
 \underline{032} \\
 0 \\
 24 \\
 \underline{ 24} \\
 0 \\
 518 \\
 \underline{ 518} \\
 0
 \end{array}$$

1500

032116
 03252116 340
 0043116
 $\rightarrow 30$

DATE _____

8 2 2 12

0 12 4 16 12

0 0 16 20 8 12

0 0 0 0 104 12

0 0 0 0 92 12

0 0 0 0 12 26 12

0 0 0 0 13 12

0 0 0 0 1 6 12

0 0 0 0 3 12

0 0 0 0 1 1 12

0 0 0 0 1 1 0

DATO 1

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

$$\begin{aligned} 471 &= 4 \cdot 9^2 + 7 \cdot 9^1 + 1 \cdot 9^0 \\ &= 256 + 96 + 1 \\ &= 313 \end{aligned}$$

3	13	12					100	1100
---	----	----	--	--	--	--	-----	------

[illegible]

DATA 2

76543210
 11101001
 $2^7 + 2^6 + 2^5 + 2^3 + 2^0 = (233)_{10}$
 $1 \quad 1 \quad 1 \quad 1 \quad 1$
 $233 \mid 8 \quad 35$
 $73 \quad 24 \mid 8$
 $5 \quad 3 \mid 5$
 $1 \quad 3 \mid 0$

283	(16)		
073	14	(16)	
09	14	0	
	↑		A 9
			E 9

DATO 3

$\begin{array}{c} \overline{F} \quad \overline{f} \quad 16 \\ \downarrow \quad \searrow \\ 15 \quad \quad \quad 7 \end{array}$

→

$$\begin{aligned} & 7 \cdot 10^1 + 7 \cdot 10^0 \\ & 15 \cdot 10^1 + 7 \cdot 10^0 \\ & = 240 + 7 \\ & = 247 \end{aligned}$$

$$15 \cdot 10' + 7 \cdot 16''$$

$$= 240 + 7$$

$$= 247$$

15	12			
17	12			
11	13	12		
	11	11	12	
		11	0	

7	12		
1	3	12	
1	1	1	12
			0

Para completar los grupos de 4

Para completar
los grupos de 4

DATE 4

247 (E)

07	30	15
7	6	3
7	6	30

Procesos
Distintos

Para completar
los grupos de 3

0	1	10	11
3	6	7	

5 3 6 7

Suma y Multiplicación Binaria

① $832_{10} = (1101000000)_2$

$$* + 7410 = 7412$$

$$= (1001010)_2$$

$$\begin{array}{r} 110100000 \\ + 11001010 \\ \hline 110001010 \end{array}$$

[illegible]

$$A \times 258 = 2 \cdot 8 + 5 \cdot 1$$
$$= 16 + 5 = 21 \quad 10$$

$$= 16 + 5 = 21_{10}$$

$$= (10101)_2$$

212

1 10 12
1 0 5 12
1 2 2
0 1 12
0

[illegible]

$$\star - 110_2 = (0110)_2$$

9	1	1	0	1	0	0	0	0	0	0	0
+	1	1	1	1	1	1	1	0	1	0	
<hr/> 1 1 1 0 0 1 1 1 0 1 0											

$$\begin{array}{r} 0110 \\ 1001 \\ \hline 1111 \\ 1010 \end{array}$$

→ $A_{216} = (10100010)_2$

$$\begin{array}{r} 1101000000 \\ + 10100010 \\ \hline 111100010 \end{array}$$

$$\textcircled{2} 47_{10} = (10011001)_2$$

$$+ 79_{10} = (1001010)_2$$

$$* \times 258 = (10101)_2$$

$$\begin{array}{r} 00010011001 \\ + \quad 0101010 \\ \hline 0100011 \end{array}$$

$$\begin{array}{r} 100111001 \\ \times \quad 1001010 \\ \hline 0000000000 \\ 100111001 \end{array}$$

$$\begin{array}{r} 0000000000 \\ + \quad 100111001 \\ \hline 0000000000 \\ 0000000000 \\ 100111001 \\ \hline 101101001111010 \end{array}$$

$$* - 110_2 = (0110)_2$$

$$\begin{array}{r} 100111001 \\ + \quad 11111010 \\ \hline 110110011 \end{array}$$

$$\begin{array}{r} 0110 \\ 1001 \\ + \quad 1 \\ \hline 1010 \end{array}$$

$$* + A_{16} = (10100010)_2$$

$$\begin{array}{r} 100111001 \\ + \quad 10100010 \\ \hline 1110111011 \end{array}$$

$$\textcircled{3} 11101001_2$$

$$A \quad + 79_{10} = (1001010)_2$$

$$\begin{array}{r} 11101001 \\ + \quad 1001010 \\ \hline 1001110011 \end{array}$$

$$* \times 258 = (10101)_2$$

$$\begin{array}{r} 11101001 \\ \times \quad 10101 \\ \hline 11101001 \\ 00000000 \\ 11101001 \\ 00000000 \\ 11101001 \\ \hline 10011100011101 \end{array}$$

$$A - 1102 = (0110)_2$$

$$\begin{array}{r} + 111101001 \\ + 11111010 \\ \hline \times 11100011 \\ \hline \end{array}$$

$$\begin{array}{r} 110 \\ 6001 \\ + 1 \\ \hline 010 \end{array}$$

$$A + A216 = (10100010)_2$$

$$\begin{array}{r} + 111101001 \\ + 10100010 \\ \hline 110001011 \\ \hline \end{array}$$

$$\textcircled{4} F716 = (1111011)_2$$

$$A + 7410 = (1001010)_2$$

$$\begin{array}{r} + 11110111 \\ + 1001010 \\ \hline 101000001 \\ \hline \end{array}$$

$$A \times 258 = (10101)_2$$

$$\begin{array}{r} \times 11110111 \\ \times 10101 \\ \hline 11110111 \\ + 00000000 \\ + 11110111 \\ + 00000000 \\ + 11110111 \\ \hline 1010001000011 \\ \hline \end{array}$$

$$A - 1102 = (0110)_2$$

$$\begin{array}{r} + 11110111 \\ + 11111010 \\ \hline \times 11110001 \\ \hline \end{array}$$

$$\begin{array}{r} 110 \\ 6001 \\ + 1 \\ \hline 010 \end{array}$$

$$A + A216 = (10100010)_2$$

$$\begin{array}{r} + 11110111 \\ + 10100010 \\ \hline 110011001 \\ \hline \end{array}$$

DATO	7A10	258	1102	A716
83210	1110001010	10001001000000	11100111010	111100010
4718	110000011	10110100111010	100110011	111011011
111010012	100110011	1001100011101	11100011	11000101
F716	101000001	1010001000011	11110001	110011001

Punto Flotante en Base Dos

$$(35.21)_{10} \rightarrow 35 \frac{21}{100}$$

$$(100011.0011010)_2 = 1,00011001010 \times 2^5$$

Signo = 0 (positivo)

Exponente = 5

101

Mantisa = ,00011001010

0 1000111011
↓ ↓ ↓
Signo mantisa exponente

Representación en 8 bits

$$(-135.01)_{10} \rightarrow (-1000011.0000001)_2$$

$$= -1,0000110000001 \times 2^7$$

Signo = 1 (negativo)

Exponente = 7

111 1011100

Mantisa = ,00001110000001

1 0000111111
↓ ↓ ↓
signo mantisa exponente

Representación en 8 bits