

# lab # 3

## Ejercicio # 2

a.)

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

b.)

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

c.)

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

d.)

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

e.)

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

f.)

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

# Esercizio #4

a.)

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

b.)

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

c.)

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

# Ejercicio # 8.1

a.)

$$\text{Signo} = 1$$

$$\text{Entero} = 118 \approx 1 \ 1 \ 1 \ 0 \ 1 \ 0$$

$$118/2 = 59 \ 0$$

$$59/2 = 29 \ 1$$

$$29/2 = 14 \ 1$$

$$14/2 = 7 \ 0$$

$$7/2 = 3 \ 1$$

$$3/2 = 1 \ 1$$

$$1/2 = 0 \ 1$$

$$\text{fraction} = 0.546875 \approx 0.10011$$

$$0.546875 \times 2 = 1.09375 \ 1$$

$$0.09375 \times 2 = 0.1875 \ 0$$

$$0.1875 \times 2 = 0.375 \ 0$$

$$0.375 \times 2 = 0.75 \ 0$$

$$0.75 \times 2 = 1.5 \ 1$$

$$0.5 \times 2 = 1.0 \ 1$$

$$1 \ 1 \ 1 \ 0 \ 1 \ 1 \ 0 \ 1 \ 0 \ 0 \ 1 \ 1$$

$$1.11011010011 \times 2^6$$

$$6 + 127 = 133_{10} = 10000101_2$$

$$1.110110100110000000000000 = \text{Mantisa}$$

Signo Exponente

$$1 \ 10000101 \ 110110100110000000000000$$

b.)  $\text{Signo} = 0$

Entero =  $101 \approx 1100101$

$101 / 2 = 50 \quad 1$

$50 / 2 = 25 \quad 0$

$25 / 2 = 12 \quad 1$

$12 / 2 = 6 \quad 0$

$6 / 2 = 3 \quad 0$

$3 / 2 = 1 \quad 1$

$1 / 2 = 0 \quad 1$

Fraction =  $0.533203125 \approx 0.10010110001$

$0.533203125 \times 2 = 1.06640625 \quad 1$

$0.06640625 \times 2 = 0.1328125 \quad 0$

$0.1328125 \times 2 = 0.265625 \quad 0$

$0.265625 \times 2 = 0.53125 \quad 0$

$0.53125 \times 2 = 1.0625 \quad 1$

$0.0625 \times 2 = 0.125 \quad 0$

$0.125 \times 2 = 0.25 \quad 0$

$0.25 \times 2 = 0.5 \quad 0$

$0.5 \times 2 = 1.0 \quad 1$

$1100101 \cdot 10010110001 \approx 1.10010110001 \times 2^6$

$6 + 127 = 133 = 10000101$

Mantisa =  $1001011001000100000000$

Signo Exponente

0 10000101 1001011001000100000000