SOLUZIONI ESERCITAZIONE DEL 4/03/2004

1. Conversione decimale-binario:

437 / 2=218 R.1
218 / 2=109 R.0
109 / 2=54 R.1
54 / 2=27 R.0
27 / 2=13 R.1
13 / 2=6 R.1
6 / 2=3 R.0
3 / 2=1 R.1
1 / 2=0 R.1

437=110110101

875 / 2=437 R.1
437 / 2=218 R.1
218 / 2=109 R.0
109 / 2=54 R.1
54 / 2=27 R.0
27 / 2=13 R.1
13 / 2=6 R.1
6 / 2=3 R.0
3 / 2=1 R.1
1 / 2=0 R.1

875=1101101011

15320/ 2=7660 R.0
7660 / 2=3830 R.0
3830 / 2=1915 R.0
1915 / 2=957 R.1
957 / 2=478 R.1
478 / 2=239 R.0
239 / 2=119 R.1
119 / 2=59 R.1
59 / 2=29 R.1
29 / 2=14 R.1
14 / 2=7 R.0
7 / 2=3 R.1
3 / 2=1 R.1
1 / 2=0 R.1

15320=11101111011000

2. Conversione binario-decimale:

$10011_2 = 1*2^4 + 1*2^1 + 1*2^0 = 16 + 2 + 1 = 19$

$10001101_2 = 1*2^7 + 1*2^3 + 1*2^2 + 1*2^0 = 128 + 8 + 4 + 1 = 141$

$1011101_2 = 1*2^6 + 1*2^4 + 1*2^3 + 1*2^2 + 1*2^0 = 64 + 16 + 8 + 4 + 1 = 93$

3. Conversione binario-esadecimale:

$1100111_2 = 0110_2 / 0111_2 = 0x6 / 0x7 = 0x67$

$10001101_2 = 1000_2 / 1101_2 = 0x8 / 0xD = 0x8D$

$1011101_2 = 0101_2 / 1101_2 = 0x5 / 0xD = 0x5D$

4. Conversione esadecimale-binario:

$0x9F = 0x9 / 0xF = 1001_2 / 1111_2 = 10011111_2$

$0x6B = 0x6 / 0xB = 0110_2 / 1011_2 = 1101011_2$

$0x2C = 0x2 / 0xC = 0010_2 / 1100_2 = 101100_2$

5. Operazioni:

0	0	1	1	0	1	1	0	+
0	0	1	0	0	0	1	1	=
0	1	0	1	1	0	0	1	

Sottrazione in CA1:

	0	0	1	1	0	1	1	0	+
1	1	1	0	1	1	1	0	0	=
	0	0	0	1	0	0	1	0	+
								1	=
	0	0	0	1	0	0	1	1	

Sottrazione in CA2:

	0	0	1	1	0	1	1	0	+
1	1	1	0	1	1	1	0	1	=
	0	0	0	1	0	0	1	1	

Sottrazione in Modulo e Segno:

0	0	1	1	0	1	1	0	-
1	0	1	0	0	0	1	1	=
0	0	0	1	0	0	1	1	

Moltiplicazione:

			1	0	0	0	1	*
				1	1	0	0	=
			0	0	0	0	0	
		0	0	0	0	0		
	1	0	0	0	1			
1	0	0	0	1				
1	1	0	0	1	1	0	0	

6. Conversione secondo lo standard IEEE754

-40.5 = <1,10000100,01000100000000000000000>
-5 = <1,10000001,01000000000000000000000>
-0.75 = <1,01111110,10000000000000000000000>