

## SERIE N°1

**Exercise 1: Convert the following numbers**

A/

|             | 6   | 64  | 123 | 200 |
|-------------|-----|-----|-----|-----|
| Binary      |     |     |     |     |
| Octal       |     |     |     |     |
| Hexadecimal |     |     |     |     |
| Others      | B3? | B5? | B7? | B4? |

B/

$$(1010101110)_2 = ( )_{10} \quad (11010101)_2 = ( )_{10} \quad (57)_8 = ( )_{10} \quad (1432)_8 = ( )_{10}$$

$$(BAC)_{16} = ( )_{10} \quad (152)_{16} = ( )_{10} \quad (143)_7 = ( )_{10} \quad (1258)_9 = ( )_{10}$$

C/

|              | 1111 | 10011001 | 10111101001 | 101110110010101 |
|--------------|------|----------|-------------|-----------------|
| Octal        |      |          |             |                 |
| Hexadecimale |      |          |             |                 |
| Base 4       |      |          |             |                 |

$$D/ (32)_4 = ( )_2 \quad (102)_4 = ( )_2 \quad (17)_8 = ( )_2 \quad (526)_8 = ( )_2 \quad (FAC)_{16} = ( )_2$$

$$(A7C2B1)_{16} = ( )_2 \quad (15)_7 = ( )_5 \quad (138)_8 = ( )_9 \quad (A1)_{11} = ( )_{12} \quad (112)_3 = ( )_5$$

$$(32)_4 = ( )_8 \quad (102)_8 = ( )_{16} \quad (17)_{16} = ( )_4 \quad (121)_4 = ( )_{16} \quad (FAC)_{16} = ( )_8$$

$$\begin{aligned}
 \mathbf{E/} & (15.25)_{10} = ( )_2 = ( )_8 = ( )_{16} = ( )_4 & (45.75)_{10} &= ( )_2 = ( )_8 = ( )_{16} = ( )_4 \\
 & (1010111.11)_2 = ( )_{10} & (12.2)_8 &= ( )_{10} & (\mathbf{A.8})_{16} &= ( )_{10} & (\mathbf{14.12})_5 &= ( )_{10} \\
 & (1011.101)_2 = ( )_4 = ( )_8 = ( )_{16} & & & & & & & (\mathbf{10010.101})_2 = ( )_4 = ( )_8 = ( )_{16} \\
 & (12.3)_4 = ( ) & (54.2)_8 &= ( )_2 & & & & & (\mathbf{BAC.15})_{16} = ( )_2 \\
 & (12.3)_4 = ( )_8 & (13.2)_8 &= ( )_{16} & & & & & (\mathbf{A.C})_{16} = ( )_4 & (\mathbf{3.12})_4 = ( )_{16} & (\mathbf{A.F})_{16} = ( )_8
 \end{aligned}$$

**EXERCISE 2 : Perform the following arithmetic operations**

$$\mathbf{A/} (10011101)_2 + (11000010)_2 \mid (11001100)_2 + (10111001)_2 \mid$$

$$(11001111)_2 - (10001100)_2 \mid (10101010)_2 - (1000010)_2 \mid$$

$$(1110010)_2 \times (10)_2 \mid (10101101)_2 \times (11)_2$$

$$(10010000111)_2 / (1011)_2 \mid (1001001)_2 / (101)_2$$

$$\mathbf{B/} (752)_8 + (64)_8 \qquad (1572)_8 + (1321)_8$$

$$(654)_8 - (322)_8 \qquad (452)_8 - (63)_8$$

$$(143)_8 \times (24)_8 \qquad (153)_8 \times (26)_8$$

$$\mathbf{C/} (17A)_{16} + (52)_{16} \qquad (A9C)_{16} + (48)_{16}$$

$$(F7A)_{16} - (D58)_{16} \qquad (D84)_{16} - (95)_{16}$$

$$(A42)_h \times (12)_h \qquad (9E7)_h \times (13)_h$$

$$\mathbf{D/} (651)_7 + (234)_7 \qquad (421)_5 - (34)_5$$

$$(121)_3 \times (22)_3 \qquad (A2C)_D + (4AB)_D$$