

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				

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

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

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

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

EXERCISE 2 : Perform the following arithmetic operations

$$\begin{aligned}
 \mathbf{A/} & (10011101)_2 + (11000010)_2 \mid (11001100)_2 + (10111001)_2 \mid \\
 & (11001111)_2 - (10001100)_2 \mid (10101010)_2 - (1000010)_2 \mid \\
 & (1110010)_2 \times (10)_2 \mid (10101101)_2 \times (11)_2 \\
 & (10010000111)_2 / (1011)_2 \mid (1001001)_2 / (101)_2
 \end{aligned}$$

$$\begin{aligned}
 \mathbf{B/} & (752)_8 + (64)_8 & (1572)_8 + (1321)_8 \\
 & (654)_8 - (322)_8 & (452)_8 - (63)_8 \\
 & (143)_8 \times (24)_8 & (153)_8 \times (26)_8
 \end{aligned}$$

$$\begin{aligned}
 \mathbf{C/} & (17A)_{16} + (52)_{16} & (A9C)_{16} + (48)_{16} \\
 & (F7A)_{16} - (D58)_{16} & (D84)_{16} - (95)_{16} \\
 & (A42)_h \times (12)_h & (9E7)_h \times (13)_h
 \end{aligned}$$

$$\begin{aligned}
 \mathbf{D/} & (651)_7 + (234)_7 & (421)_5 - (34)_5 \\
 & (121)_3 \times (22)_3 & (A2C)_D + (4AB)_D
 \end{aligned}$$