**Binary , Octal and Hexadecimal conversion(fast method) :**

***EX***:

 1 2 7 5 4 3 Octal

 1 0 1 0 1 1 1 1 0 1 1 0 0 0 1 1 Binary

  A  F  6  3  Hexadecimal

 =(44899)decimal how !

***EX:***

  2 1 4 4 3 5  Octal

 1 0 0 0 1 1 0 0 1 0 0 0 1 1 1 0 1 Binary

 1  1  9  1 D  Hexadecimal

***H.w:***

(1011100011)B =( ?)0 =(?)H

(AF31C)H= (?)O =(?)B

(37012)0= (?)B =(?)H

**Arithmetic operation :**

 1-Binary addition :

 Carry sum

 0 + 0 = 0

 0 + 1 = 1

 1 + 0 = 1

 1 + 1 = 1 0

***EX:***

 1 1 1

 11 100 111 110

 +11 + 10 + 11 +100

 110 110 1010 1010

**2-Binary subtraction :**

 0 – 0 = 0

 1 – 1 = 0

 1 – 0 = 1

  10 0 – 1 = 1 with borrow 1

***EX:***

  10 10

1. 11 101 110

 -01 -10 -011 -101

 10 01 010 001

**3-Binary multiplication :**

 0 x 0 = 0

 0 x 1 = 0 the same manner as in Decimal

 1 x 0 = 0

 1 x 1 = 1

***EX:***

 11 111

 X 11 x 101

 11 111

 + 11 + 000

 1001 111

100011

 **Hexadecimal addition :**

***EX:***

 23 58 2B

 +16 +22 +84

 39H 7AH  AFH