**15´s and 16´s complements in hexadecimal :**

 ***EX***: Find 15´s and 16´s comp. of ( 1 F A D )16

 15 15 15 15

 - 1 F A D

 E 0 5 2 15´s comp.

 1 +

 E 0 5 3 16´s comp.

 ***EX***: Perform A B E D – 1 F A D using 16's comp. :

  1 1

 A B E D

 + E 0 5 3

 16 – 16 = 0

 20 – 16 = 4

 24 – 16 = 8

 1 8 C 4 0 the result

 ***H.W.***:Perform the following using 16's complement :

 F E E D16 – D A F 316 = ANS: 23FA16

 9 8 A E16 – 1 F E E16 =

**4-Binary division :**

The standard division format is:

 Dividend =quotient

 Divisor

The divisor can be subtracted from the dividend a number of times equal to the quotient. For example in decimal:

21 21-7=14 1st

7

 14-7=7 2nd

 7-7=0 3rd so quotient= 3

In binary:

***EX:*** 1100

 100

100 0100 1's comp. 1011 2's comp. 1100

 1100

 1100 +

X 1 1000 q=1

 1100+

X 1 0100 q=2

 1100 +

X 1 0000 q=3 the result

***EX:*** Divide 1010 by 101:

101 0101 1's comp. 1010 2's comp. 1011

 1010

 1011 +

X 1 0101 q=1

 1011 +

X 1 0000 q=2 the result