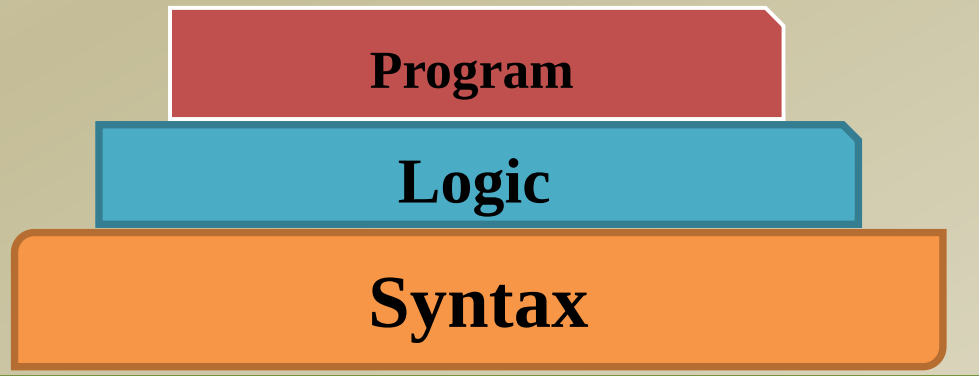
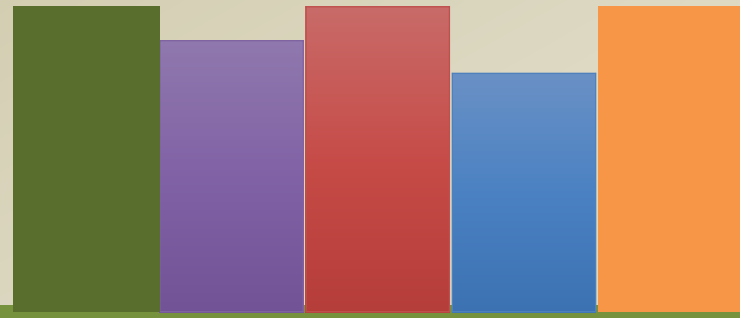
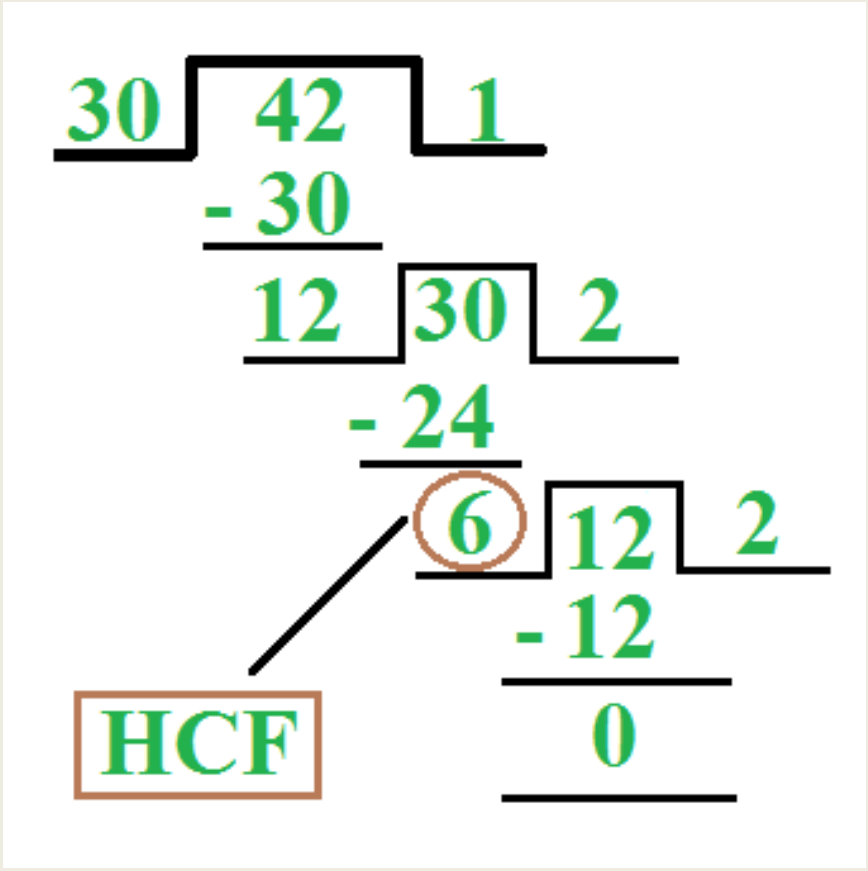
Code at Random
(OPC) PVT. LTD.

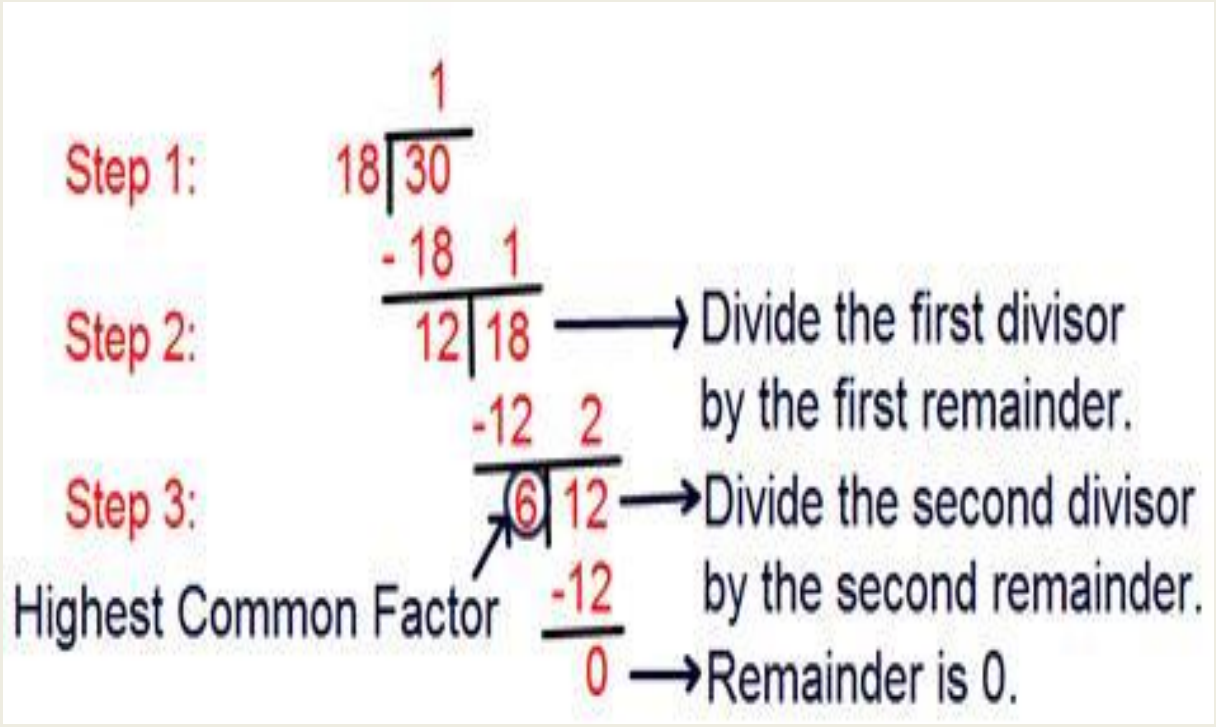
Program To Find HCF of two numbers by Long Division Method





HCF By Long Division Method





HCF By Long Division Method

- To find the H.C.F. of the given number we will follow the following steps:

1. We divide the bigger number by smaller one.
2. Divide smaller number in step 1 with remainder obtained in step 1.
3. Divide divisor of second step with remainder obtained in step 2.
4. We will continue this process till we get remainder zero and divisor obtained in end is the required H.C.F.

Let's take few examples for this:
Example 1: Find the H.C.F. of 248 and 492?
To find the solution we will follow the following method i.e. we divide bigger number 492 by smaller one i.e. 248

So the divisor in the end was 4 so the H.C.F of the given numbers is 4

HCF of 24 and 18 by division method

Step 1 = Divide the larger number 24 by the smaller number 18. And this division will give remainder 6.

Step 2 = Now, divide 18 (divisor of step 1) with 6 (remainder of step 1)

Step 3 = Division in Step 2 give us remainder 0 (Zero). And The Last Divisor is the GCD of 24 & 18.

Hence, GCD = 6

```
18 | 24 | 1
     18
   ____
    6 | 18 | 3
        18
      ____
         0
```

Final Program

```
import java.util.*;
class Gcd
   {
      public static void main(String args[])
      {
         Scanner sc = new Scanner(System.in);
         System.out.print("Enter two numbers ");
         int a=sc.nextInt();
         int b=sc.nextInt();
         int r,t;
               if(a>b)
               {
                 t=a;
                 a=b;
                 b=t;
               }
while(b%a != 0)
               {
                  r = a % b;
                           b=a;
                           a=r;

               }
               System.out.print("GCD = "+a);
         }
   }
```