

GCD of Two Numbers

GCD (Greatest Common Divisor) or HCF (Highest Common Factor) of two numbers is the largest number that divides both of them.

Program to find GCD or HCF of two numbers

$$\begin{aligned} 36 &= 2 \times 2 \times 3 \times 3 \\ 60 &= 2 \times 2 \times 3 \times 5 \\ \text{GCD} &= \text{Multiplication of common factors} \\ &= 2 \times 2 \times 3 \\ &= 12 \end{aligned}$$



For example, GCD of 20 and 28 is 4 and GCD of 98 and 56 is 14.

```
#include<iostream>
using namespace std;

int main()
{
    int a, b;
    cin >> a >> b;

    int x = min(a,b);
    int ans = 1;

    for(int i = 1; i<=x; i++){
        if(a%i==0 and b%i==0)
            ans = i;
    }
    cout << ans;
    return 0;
}
```

INPUT :

15 6

OUTPUT :

3