Computing the GCD

HackerRank

Objective

In this challenge, we learn how to compute GCD using the Euclidean algorithm.

Resources

Here's a helpful video on the topic:

Given two integers, x and y, a recursive technique to find their GCD is the Euclidean Algorithm.

The algorithm states that, for computing the GCD of two positive integers x and y, if x and y are equal, $GCD(x, y) = x$. Otherwise $GCD(x, y) = GCD(x - y, y)$ if $x > y$. There are a few optimizations that can be made to the above logic to arrive at a more efficient implementation.

Task

Given the starter code, you need to complete a function body that returns the GCD of two given integers x and y.
The task of reading in input and printing the output will be handled by us.

Programming Language Support

At this point of time, we have a template for Scala. This means that we provide the code required to accept the input and display the output.

Input Format

One line of input containing 2 space separated integers.

Constraints

$1 \leq a, b \leq 10^6$

Output Format

Output one integer, the GCD of the two given numbers.

Sample Input

```
1 5
```

Sample Output

```
1
```

Explanation

Sample Return Values:

```
GCD(1,5) = 1
GCD(10,100) = 10
GCD(22,131) = 1
```