3 Greatest Common Divisor

Problem Introduction

The greatest common divisor $\mathrm{GCD}(a, b)$ of two non-negative integers a and b (which are not both equal to 0) is the greatest integer d that divides both a and b. Your goal in this problem is to implement the Euclidean algorithm for computing the greatest common divisor.
Efficient algorithm for computing the greatest common divisor is an important basic primitive of commonly used cryptographic algorithms like RSA.

$$\begin{aligned} &\mathrm{GCD}(1344, 217) \\ =&\mathrm{GCD}(217, 42) \\ =&\mathrm{GCD}(42, 7) \\ =&\mathrm{GCD}(7, 0) \\ =&7 \end{aligned}$$

Problem Description

Task. Given two integers a and b, find their greatest common divisor.

Input Format. The two integers a, b are given in the same line separated by space.

Constraints. $1 \leq a, b \leq 2 \cdot 10^9$.

Output Format. Output $\mathrm{GCD}(a, b)$.

Sample 1.

Input:

```
18 35
```

Output:

```
1
```

18 and 35 do not have common non-trivial divisors.

Sample 2.

Input:

```
28851538 1183019
```

Output:

```
17657
```

$28851538 = 17657 \cdot 1634$, $1183019 = 17657 \cdot 67$.

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