

GCD

In this problem you need to find the G.C.D of some numbers.

Since G.C.D between two numbers is too mainstream you need to find the G.C.D of all the given numbers.

Input

In the first line, there will be an integer, **N** ($1 \leq N \leq 10^5$).

In the next line there will be **N** integers. All the given integers will be less than 10^5 .

Output

You have to print the G.C.D of all the given numbers.

Example

Input:

5

2 4 6 8 2

Output:

2