

A. GCD Table

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

The GCD table G of size $n \times n$ for an array of positive integers a of length n is defined by formula

Let us remind you that the greatest common divisor (GCD) of two positive integers x and y is the greatest integer that is divisor of both x and y , it is denoted as $\gcd(x, y)$. For example, for array $a = \{4, 3, 6, 2\}$ of length 4 the GCD table will look as follows:

Given all the numbers of the GCD table G , restore array a .

Input

The first line contains number n ($1 \leq n \leq 500$) — the length of array a . The second line contains n^2 space-separated numbers — the elements of the GCD table of G for array a .

All the numbers in the table are positive integers, not exceeding 10^9 . Note that the elements are given in an arbitrary order. It is guaranteed that the set of the input data corresponds to some array a .

Output

In the single line print n positive integers — the elements of array a . If there are multiple possible solutions, you are allowed to print any of them.

Examples

input
4 2 1 2 3 4 3 2 6 1 1 2 2 1 2 3 2
output
4 3 6 2
input
1 42
output
42
input
2 1 1 1 1
output
1 1