

Divisors [I]

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

points: 100 · problem code: divisors1 · author: glipR

Consider the sequence of all natural numbers, and then for each number, listing each of the divisors of this number in increasing order:

123456...

becomes:

11213124151236...

Since this (infinite) sequence has a lot of duplicates, we can notate for each digit whether it is the first, second, third... occurrence using a subscript:

$1_1 1_2 2_1 1_3 3_1 1_4 2_2 4_1 1_5 5_1 1_6 2_3 3_2 6_1 \dots$

For this first problem, we'd like to consider a collection of values from this sequence, and try to order them based on their appearance in the sequence.

For example, if given the values $1_1, 2_4, 1_5, 5_1, 3_2, 2_3$ we would order these as $1_1, 1_5, 5_1, 2_3, 3_2, 2_4$.

Input

Input will begin with a single integer n , representing the length of the following sequence. The next line will contain n space separated values in the form i_j , representing the value i_j in the sequence.

Output

Output a single line with n space separated values in the form of i_j , the sorted version of what was passed through in input.

Constraints

- $1 \leq n \leq 10^5$
- $1 \leq i, j \leq 10^9$

Example

Input

```
6
1_1 2_4 1_5 5_1 3_2 2_3
```

Output

```
1_1 1_5 5_1 2_3 3_2 2_4
```