

[PI022] - Quadratic Sorting Tutorial

Task

You are given sequence of integers and you need to sort them.

Input

The first line of the input contains one integer n ($1 \leq n \leq 500$), corresponding to the amount of integers.

The second line of the input contains n integers, separated by spaces (all integers are at least 1 and at most 100'000).

Output

Print one line with n integers, separated by a space, corresponding to the solution of the problem (i.e. as sorted sequence).

Hint: consider using the bubble or insertion sort algorithm.

Example 1

Input

```
6
3 10 2 5 2 8
```

Output

```
2 2 3 5 8 10
```

Example 2

Input

```
6
5 10 4 10 1 10
```

Output

```
1 4 5 10 10 10
```

