Problem 4. Second maximum and second minimum

Description

In this problem, you need to find the second maximum and second minimum of a series of integers.

Duplicated values should be ignored. For example, the second minimum of $\{1, 1, 2, 3, 4\}$ is 2, not 1.

Input format

- The first line contains an integer n, indicating that there are n integers. ($n \geq 2$)
- The following line contains n integers x_i, separated by whitespace.
- For 100% cases, $|x_i| \leq 100$, and there are at least two different numbers.

Output format

- Two numbers, the second maximum and the second minimum, separated by a whitespace.

Example

Input:

```
5
3 1 4 7 2
```

Output:

```
4 2
```

Notes

This problem should be solved without arrays or dynamic memory allocation. Keep your solution simple.

You will not be able to pass the last 5 testcases if you use arrays or dynamic memory allocation.