Problem H

Removing noisy data

Time limit: 1 second
Memory limit: 512 megabytes

During a break time in the "Noisy Data Processing" class, teacher gives each student a sequence of integers of length $n \geq 2$. The teacher asks them to compute the product of all numbers in the sequence.

Being top students, Luna and Thana could easily do this with a single line of code. However, the teacher wants them to apply the knowledge from the lecture on noise reduction. The challenge is that each student must remove **exactly one number**, can be considered as noisy data, from the original sequence so that the product of the remaining numbers is **as large as possible**.

If there are multiple choices of which number to remove that lead to the same maximal product, then:

- Luna will remove the **largest** such number.
- Thana will remove the **smallest** such number.

Your task is to help Luna and Thana determine which numbers they should remove.

Input

- The first line contains an integer n ($2 \leq n \leq 10^5$).
- The second line contains n integers, not necessarily distinct, each having an absolute value not exceeding 10^5.

Output

Print two integers — the numbers that Luna and Thana should remove, respectively.

Sample Input	Sample Output
4 0 1 2 3	0 0

Sample Input	Sample Output
4 0 0 -1 2	2 -1

Explanation

In the first example, removing any number other than 0 results in a zero, so both of students should remove 0. In the second example, since there are two zeros, removing either does not change the product (it remains 0); thus, Luna removes the largest possible number (which is 2), while Thana removes the smallest possible number (which is -1).