# Grand Voting

| | |
|---|---|
| Input file: | `standard input` |
| Output file: | `standard output` |
| Time limit: | 1 second |
| Memory limit: | 512 megabytes |

Dada organized a contest, but it received heavy downvotes. He decided to start manipulating the comments.

This contest has $s$ votes, initially set to 0.

There are $n$ participants, each with a voting parameter $a_i$. When it's their turn to vote:

- If $s \geq a_i$, they cast an upvote, incrementing $s$ by 1.
- If $s < a_i$, they cast a downvote, decrementing $s$ by 1.

Dada can control the voting order of these $n$ people. He wants to know the maximum and minimum possible vote count $s$ in this contest.

## Input

The first line of input contains a single integer $n$ ($1 \leq n \leq 10^5$), representing the number of voters.

The next line of input contains $n$ integers $a_1, a_2, \cdots, a_n$ ($|a_i| \leq 10^5$), separated by spaces.

## Output

Output one line containing two integers separated by a space, representing the maximum and minimum vote count $s$ in this contest.

## Example

| standard input | standard output |
|---|---|
| 5<br>-1 0 1 2 3 | 5 -5 |

## Note

For example, if you rearrange $a$ to $[-1, 0, 1, 2, 3]$, initially $s = 0$. Since $s \geq a_1 = -1$, the first voter casts an upvote, making $s = 1$. Similarly, the remaining four voters also satisfy $s \geq a_i$, so all cast upvotes. The final value of $s$ is 5, which is the maximum possible.

Conversely, if you rearrange $a$ to $[1, 2, 0, 3, -1]$, then for each voter from left to right, $s < a_i$ holds, so all cast downvotes, resulting in $s = -5$. This is the minimum possible. Another arrangement such as $[3, 2, 1, 0, -1]$ also leads to $s = -5$.