New Year Party

Problem Statement

Aleksa is having a New Year's Eve party! His house has a magic doorway that only allows 1 person to enter per 1 second, and he knows n people will show up.

If two guests arrive at same time, *one guest must wait for the other to enter*. If two guests arrive at different times, the guest arriving first must enter first.

Given the arrival times for all n guests, determine the *entry time* of the last guest.

Input Format

The first line contains an integer, n, denoting the number of guests.
The second line contains n integers, $t_0, t_1,...,t_{n-1}$, where t_i is the arrival time of i^{th} guest.

Constraints

$1 \le n \le 10^5$
$1 \le t_0 \le t_1 \le .... \le t_{n-1} \le 10^6$

Output Format

Print the time that the last guest *enters* the magic doorway.

Sample Input 1:

```
8
2 2 2 2 4 4 4 6
```

Sample Output 1:

```
9
```

Sample Input 2:

```
3
2000 2015 2015
```

Sample Output 2:

```
2016
```

Explanation

For **Sample 1**:
We know from our constraints that each arrival time $t_i \le t_{i+1}$. If we refer to s as the second when an event occurs, then:

Guest 0 arrives at $s=2$ and enters at $s=2$.
Guest 1 arrives at $s=2$ and enters at $s=3$.

Guest 2 arrives at $s=2$ and enters at $s=4$.
Guest 3 arrives at $s=2$ and enters at $s=5$.
Guest 4 arrives at $s=3$ and enters at $s=6$.
Guest 5 arrives at $s=3$ and enters at $s=7$.
Guest 6 arrives at $s=3$ and enters at $s=8$.
Guest 7 arrives at $s=6$ and enters at $s=9$.

Thus, the last guest (7) enters at $s=9$.

For **Sample 2**:
Guest 0 arrives at $s=2000$ and enters at $s=2000$.
Guest 1 arrives at $s=2015$ and enters at $s=2015$.
Guest 2 arrives at $s=2015$ and enters at $s=2016$.

Thus, the last guest (3) enters at $s=2016$.