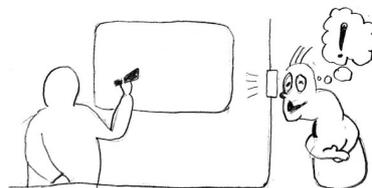


## Sequence

Adam wrote down a sequence of  $K$  consecutive positive integers starting with  $N$  on a blackboard. When he left, Billy came in and erased all but one digit from each number, thus creating a sequence of  $K$  digits.



## Task

Given the final sequence left on the blackboard, find the smallest value of  $N$  with which the initial sequence might have started.

## Input

The first line of the input contains a single integer  $K$  — the length of the sequence. The second line contains  $K$  integers  $B_1, B_2, \dots, B_K$  — Billy's sequence ( $0 \leq B_i \leq 9$ ), in the order in which it is written on the blackboard.

## Output

The output should consist of a single line with the smallest value of  $N$  with which the initial sequence might have started.

## Example

Input	Output	Comments
6 7 8 9 5 1 2	47	$N = 47$ would correspond to Adam's sequence being 47 48 49 50 51 52 from which Billy's sequence can indeed be obtained. As no smaller value of $N$ would work, the answer is 47.

## Scoring

**Subtask 1 (9 points).**  $1 \leq K \leq 1000$ , correct answer does not exceed 1000.

**Subtask 2 (33 points).**  $1 \leq K \leq 1000$ .

**Subtask 3 (25 points).**  $1 \leq K \leq 100\,000$ , all elements of the given sequence are equal.

**Subtask 4 (33 points).**  $1 \leq K \leq 100\,000$ .

## Constraints

Time limit: 1 s.

Memory limit: 256 MB.