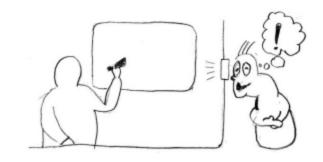# Baltic OI '14 P3 - Sequence

Time limit: 1.0s   **Memory limit:** 256M

Baltic Olympiad in Informatics: 2014 Day 1, Problem 3

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.

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

Constraints

Subtask 1 [9%]

$1 \leq K \leq 1\,000$

The correct answer does not exceed $1\,000$.

Subtask 2 [33%]

$1 \leq K \leq 1\,000$

Subtask 3 [25%]

$1 \leq K \leq 100\,000$

$B_1 = B_2 = \cdots = B_K$

All elements of the given sequence are equal.

Subtask 4 [33%]

$1 \leq K \leq 100\,000$

Input Specification

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

Output Specification

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

Sample Input

```
6
7 8 9 5 1 2
```

Sample Output

```
47
```

Explanation for Sample

$N = 47$ 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.