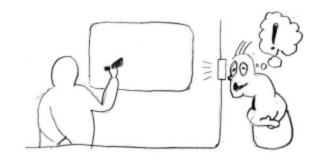
Baltic OI '14 P3 - Sequence

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%]

 $1 \le K \le 1000$

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%]

 $1 \le K \le 100\,000$

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 $(0 \le B_i \le 9)$, 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.