Sequence

Adam wrote down on a blackboard a sequence of K consecutive positive integers starting with N. When he left, Billy came in and erased all but one digit from each number, thus creating a sequence of K integers between 0 and 9.

Task

Given the final sequence left on the blackboard, find the least possible value of N with which it could have occured.

Implementation

Write a function `recreate_sequence(K, B)` that takes the following parameters:

- `K` — the length of either sequence

- `B` — a one–dimensional array that describes Billy's sequence, in the order in which it is written on the blackboard: $A[i]$ $(0 \leq i \leq K - 1)$ is a digit of $N + i$

Function `recreate_sequence` has to return the least possible value of N with which this sequence could have occured.

Example

Let us consider the example where

$$K = 6 \quad A = \begin{array}{c} 7 \\ 8 \\ 9 \\ 5 \\ 1 \\ 2 \end{array}$$

Then setting $N = 47$ 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, your function has to return 47.

Scoring

Subtask 1 (? points). $1 \leq K \leq 10$

Subtask 2 (? points). $1 \leq K \leq 1000$, correct answer does not exceed 1000

Subtask 3 (? points). $1 \leq K \leq 1000$

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

Constraints

Time limit: ? s.

Memory limit: ? MB.