

Problem 2. Numbers

As we know, Ivancho really loves mathematics. Every day he learns something new and then he practices it. The last theme which Ivancho has learned is called “arrays” and now he is solving problems about different kind of arrays. The monotony of working with same digits makes Ivancho quite bored so he prefers using as many different digits as possible. Looking at a given sequence of non-negative integers, Ivancho is wondering how long is the shortest subsequence (of successive elements) of the given sequence that contains all the digits from 0 to 9. Length of a subsequence is considered to be the number of the elements in it.

Your task is to write a programme **numbers** that calculates the length of the shortest subsequence that fulfils the given condition

Input:

The first line of the input file **numbers.in** contains a single integer N – the number of the elements in the given sequence. Followed by N positive integers on the next line – the elements of the sequence.

Output:

The output file **numbers.out** must contain a single integer – the wanted length. If there is no subsequence that fulfils the desired condition, the output file must contain -1.

TIME LIMIT – 2 sec

Constraints:

$$1 \leq N \leq 100000$$

The elements of the given sequence don't exceed 10000.

Example:

numbers.in	numbers.out
9 314 3 477 65 2305 328	4

984 761 861	
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