Sequence

SEASON 7 – ROUND SIX

Ivancho had a **strictly increasing** sequence of positive integers $a_1, a_2, \ldots, a_n$. He used that sequence to build a new one $s_1, s_2, \ldots, s_n$, where s_i is the sum of the digits of a_i. Unfortunately, Ivancho lost the original sequence and is now trying to recover it using the sequence $s_1, s_2, \ldots, s_n$. After many tries, he found out that the original sequence could not be unambiguously determined. However, he wants to find such a sequence, **but also, he desires the last integer in the sequence a_n to be minimal.**

Help him find the desired sequence. It is guaranteed that such a sequence always exists.

Input

The first line of the input file `sequence.in` contains of one integer **N** – the number of integers in the sequence.

Then N lines follow containing $s_1, s_2, \ldots, s_n$ - the elements of the new sequence.

Output

In the output file `sequence.out` print N integers, one per line – the elements of the desired sequence, meeting the above conditions.

The sequence should be strictly increasing. The sum of digits of the *i*-th number should be equal to s_i.

If there are multiple sequences with least possible number a_n, print any of them.

Constraints

$1 \leq N \leq 100$

$1 \leq s_i \leq 100$

Time limit: 1.0 sec
Memory limit: 256 MB

Sample tests

Input (sequence.in)	Output (sequence.out)
4 1 2 3 1	1 2 3 10

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3 10 7 1	19 25 100