

C. Sums of Digits

time limit per test: 2 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

Vasya had a **strictly increasing** sequence of positive integers a_1, \dots, a_n . Vasya used it to build a new sequence b_1, \dots, b_n , where b_i is the sum of digits of a_i 's decimal representation. Then sequence a_i got lost and all that remained is sequence b_i .

Vasya wonders what the numbers a_i could be like. Of all the possible options he likes the one sequence with the minimum possible last number a_n . Help Vasya restore the initial sequence.

It is guaranteed that such a sequence always exists.

Input

The first line contains a single integer number n ($1 \leq n \leq 300$).

Next n lines contain integer numbers b_1, \dots, b_n — the required sums of digits. All b_i belong to the range $1 \leq b_i \leq 300$.

Output

Print n integer numbers, one per line — the correct option for numbers a_i , in order of following in sequence. The sequence should be strictly increasing. The sum of digits of the i -th number should be equal to b_i .

If there are multiple sequences with least possible number a_n , print any of them. Print the numbers without leading zeroes.

Examples

input
3 1 2 3
output
1 2 3

input
3 3 2 1
output
3 11 100