Stack Sequence

Description

Stack is often used in computer programmes as one of the fundamental data structures in programming. A stack has a “Last In First Out” (LIFO) characteristic, which means the input of data, called push, and the output of data, called pop, are both done on one end.

It is possible to make a sequence of numbers by pushing and popping numbers from 1 to ***N*** in and out of a stack. Suppose the numbers are only pushed into the stack in an ascending order i.e. 1, 2, 3, …, ***N***-1, ***N***, and form a sequence in the order they are popped. For a given sequence, find the order in which the numbers must be pushed and popped to produce the input sequence.

The cases in which it is impossible to make the sequence will not be given.

Input

Your program is to read from standard input. The number of numbers in the sequence ***N*** is given in the first line of input ($1 \le N \le 1000$). On the next line, the sequence of numbers ***k*** is given, each separated by a space ($1 \le k \le N$).

Output

Your program is to write to standard output. Push operation should be represented by (+) and pop operation should be represented by (-). Your output should be on a single line, as a sequence of + and - signs, without any spacing between the operator signs.

Sample

Input	Output
8 4 3 6 8 7 5 2 1	++++--++-++-----