B. Alternating Current

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

Mad scientist Mike has just finished constructing a new device to search for extraterrestrial intelligence! He was in such a hurry to launch it for the first time that he plugged in the power wires without giving it a proper glance and started experimenting right away. After a while Mike observed that the wires ended up entangled and now have to be untangled again.

The device is powered by two wires "plus" and "minus". The wires run along the floor from the wall (on the left) to the device (on the right). Both the wall and the device have two contacts in them on the same level, into which the wires are plugged in some order. The wires are considered entangled if there are one or more places where one wire runs above the other one. For example, the picture below has four such places (top view):

Mike knows the sequence in which the wires run above each other. Mike also noticed that on the left side, the "plus" wire is always plugged into the top contact (as seen on the picture). He would like to untangle the wires without unplugging them and **without moving** the device. Determine if it is possible to do that. A wire can be freely moved and stretched on the floor, but cannot be cut.

To understand the problem better please read the notes to the test samples.

Input

The single line of the input contains a sequence of characters "+" and "−" of length n ($1 \le n \le 100000$). The i-th ($1 \le i \le n$) position of the sequence contains the character "+", if on the i-th step from the wall the "plus" wire runs above the "minus" wire, and the character "−" otherwise.

Output

Print either "Yes" (without the quotes) if the wires can be untangled or "No" (without the quotes) if the wires cannot be untangled.

Examples

input	Copy
-++-	

output	Copy
Yes	

input	Copy

→ **Attention**

Package for this problem was not updated by the problem writer or Codeforces administration after we've upgraded the judging servers. To adjust the time limit constraint, solution execution time will be multiplied by 2. For example, if your solution works for 400 ms on judging servers, then value 800 ms will be displayed and used to determine the verdict.

Codeforces Round #200 (Div. 1)

Finished

→ **Practice?**

Want to solve the contest problems after the official contest ends? Just register for practice and you will be able to submit solutions.

Register for practice

→ **Virtual participation**

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

→ **Problem tags**

data structures greedy implementation *1600

No tag edit access

→ **Contest materials**

- Announcement

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+-
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output Copy

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No
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input Copy

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++
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output Copy

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Yes
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input Copy

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-
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output Copy

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No
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Note

The first testcase corresponds to the picture in the statement. To untangle the wires, one can first move the "plus" wire lower, thus eliminating the two crosses in the middle, and then draw it under the "minus" wire, eliminating also the remaining two crosses.

In the second testcase the "plus" wire makes one full revolution around the "minus" wire. Thus the wires cannot be untangled:

In the third testcase the "plus" wire simply runs above the "minus" wire twice in sequence. The wires can be untangled by lifting "plus" and moving it higher:

In the fourth testcase the "minus" wire runs above the "plus" wire once. The wires cannot be untangled without moving the device itself:

- Tutorial