

### C. Bad Sequence

time limit per test: 1 second  
memory limit per test: 512 megabytes  
input: standard input  
output: standard output

Petya's friends made him a birthday present — a bracket sequence. Petya was quite disappointed with his gift, because he dreamed of correct bracket sequence, yet he told his friends nothing about his dreams and decided to fix present himself.

To make everything right, Petya is going to move at most one bracket from its original place in the sequence to any other position. Reversing the bracket (e.g. turning "(" into ")") or vice versa) isn't allowed.

We remind that bracket sequence  $s$  is called correct if:

- $s$  is empty;
- $s$  is equal to "( $t$ )", where  $t$  is correct bracket sequence;
- $s$  is equal to  $t_1t_2$ , i.e. concatenation of  $t_1$  and  $t_2$ , where  $t_1$  and  $t_2$  are correct bracket sequences.

For example, "(( ))", "()" are correct, while ")(", "()" are not. Help Petya to fix his birthday present and understand whether he can move one bracket so that the sequence becomes correct.

#### Input

First of line of input contains a single number  $n$  ( $1 \leq n \leq 200\,000$ ) — length of the sequence which Petya received for his birthday.

Second line of the input contains bracket sequence of length  $n$ , containing symbols "(" and ")".

#### Output

Print "Yes" if Petya can make his sequence correct moving at most one bracket. Otherwise print "No".

#### Examples

input	Copy
2	
) (	
output	Copy
Yes	
input	Copy
3	
((	
output	Copy
No	
input	Copy
2	
()	
output	Copy
Yes	
input	Copy
10	
))))((((	

Codeforces Round #583 (Div. 1 + Div. 2, based on Olympiad of Metropolises)

Finished

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 ACM-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

Practice

You are registered for practice. You can solve problems unofficially. Results can be found in the contest status and in the bottom of standings.

Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

Submit?

Language: GNU G++11 5.1.0

Choose file: 选择文件 未选择任何文件

Be careful: there is 50 points penalty for submission which fails the pretests or resubmission (except failure on the first test, denial of judgement or similar verdicts). "Passed pretests" submission verdict doesn't guarantee that the solution is absolutely correct and it will pass system tests.

Submit

Problem tags

data structures greedy \*1200

No tag edit access

Contest materials

Announcement #1 (en)

Announcement #2 (ru)

Tutorial (en)

**output**

Copy

No

**Note**

In the first example, Petya can move first bracket to the end, thus turning the sequence into "()", which is correct bracket sequence.

In the second example, there is no way to move at most one bracket so that the sequence becomes correct.

In the third example, the sequence is already correct and there's no need to move brackets.

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