

A sequence of brackets is called balanced if one can turn it into a valid math expression by adding characters «+» and «1». For example, sequences «( ) ( )», «( )» and «( ( ) ( ) )» are balanced, while «) (», «( ( )» and «( ( ) ) ( » are not.

You are given a string which consists of opening and closing round brackets. Check whether it is a balanced bracket sequence.

### Input

The only line of input contains a string between 1 and 100 characters long, inclusive. Each character in the string will be «( » or «)».

### Output

Output «YES» if the bracket sequence is balanced, and «NO» otherwise (quotes for clarity only).

### Examples

<b>input</b>	<b>Copy</b>
((()()))()	
<b>output</b>	<b>Copy</b>
YES	

  

<b>input</b>	<b>Copy</b>
())()	
<b>output</b>	<b>Copy</b>
NO	