

## C. Longest Regular Bracket Sequence

time limit per test: 2 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

This is yet another problem dealing with regular bracket sequences.

We should remind you that a bracket sequence is called regular, if by inserting «+» and «1» into it we can get a correct mathematical expression. For example, sequences «( ( ) ) ( ) », «( ) » and «( ( ) ( ) ) » are regular, while «) », «( ( ) » and «( ( ) ) ( ) » are not.

You are given a string of «(» and «)» characters. You are to find its longest substring that is a regular bracket sequence. You are to find the number of such substrings as well.

### Input

The first line of the input file contains a non-empty string, consisting of «(» and «)» characters. Its length does not exceed  $10^6$ .

### Output

Print the length of the longest substring that is a regular bracket sequence, and the number of such substrings. If there are no such substrings, write the only line containing "0 1".

### Examples

<b>input</b>	<a href="#">Copy</a>
) ((( ))) (( ))	
<b>output</b>	<a href="#">Copy</a>
6 2	
<b>input</b>	<a href="#">Copy</a>
)) (	
<b>output</b>	<a href="#">Copy</a>
0 1	

### → 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 Beta Round #5

**Finished**

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### → Problem tags

[constructive algorithms](#) [data structures](#)
[dp](#) [greedy](#) [sortings](#) [strings](#) [\\*1900](#)

No tag edit access

### → Contest materials

- Announcement



- Tutorial #1 (en)



- Tutorial #2 (ru)



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