

PROBLEMS SUBMIT STATUS STANDINGS CUSTOM TEST

C. Replace To Make Regular Bracket Sequence

time limit per test: 1 second
memory limit per test: 256 megabytes

You are given string s consists of opening and closing brackets of four kinds $<>$, $\{\}$, $[\]$, $()$. There are two types of brackets: opening and closing. You can replace any bracket by another of the same type. For example, you can replace $<$ by the bracket $\{$, but you can't replace it by $)$ or $>$.

The following definition of a regular bracket sequence is well-known, so you can be familiar with it.

Let's define a regular bracket sequence (RBS). Empty string is RBS. Let s_1 and s_2 be a RBS then the strings $<s_1>s_2$, $\{s_1\}s_2$, $[s_1]s_2$, $(s_1)s_2$ are also RBS.

For example the string " $[[() \{ \}] < >]$ " is RBS, but the strings " $[] ()$ " and " $] [() ()$ " are not.

Determine the least number of replaces to make the string s RBS.

Input

The only line contains a non empty string s , consisting of only opening and closing brackets of four kinds. The length of s does not exceed 10^6 .

Output

If it's impossible to get RBS from s print `Impossible`.

Otherwise print the least number of replaces needed to get RBS from s .

Examples

input	Copy
[<}){}]	
output	Copy
2	

input	Copy
{()}[]	
output	Copy
0	

input	Copy
]]	
output	Copy
Impossible	

Educational Codeforces Round 4

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 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

→ Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

→ Submit?

Language: GNU G++20 13.2 (64 bit, win

Choose file: Choose File No file chosen

Submit

→ Last submissions

Submission	Time	Verdict
249063138	Mar/01/2024 13:04	Accepted
249063027	Mar/01/2024 13:03	Wrong answer on test 10
249062882	Mar/01/2024 13:02	Wrong answer on test 10
249062737	Mar/01/2024 13:01	Wrong answer on test 4
249062606	Mar/01/2024 13:00	Wrong answer on test 3

→ Problem tags

data structures expression parsing

math *1400

No tag edit access

→ Contest materials

Announcement (en)

Tutorial (en)