

D. Perse-script

time limit per test: 7 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

Two good friends were trying to make a new programming language called Perse-script.

The most important part of this language is strings. A string in Perse-script is put between characters "

So for example "Hello" is a string. But Hello is a variable name or a keyword, which are not considered in this problem.

Perse-script is function-based. So there are no operators in this language. For example for summing two numbers you have to write `sum(a, b)` and not `a+b`.

There are several functions for working on strings. These include:

- `concat(x, y)` is a function which gets two strings x and y and puts y at the end of x and returns the result. For example `concat("Hello", "World")` returns "HelloWorld".
- `reverse(x)` gets a single string x and reverses it. For example `reverse("Hello")` returns "olleH".
- `substr(x, a, b)` gets a string x and two integers a and b ($1 \leq a \leq b \leq n$, where n is the length of x). And returns the substring of x between indexes a and b , inclusive. For example `substr("Hello", 2, 4)` returns "ello".
- `substr(x, a, b, c)` is another version of `substr` which works just like the last one but c is the step of adding. c is positive. For example `substr("HelloWorld", 1, 10, 2)` returns "Hlool". This `substr` means that you put the a th character, and then every c th character until you reach b .

You're going to manipulate the string part of Perse-script. Given a string expression, you should print its result. It is guaranteed that the expression contains only strings shown by characters " and the above functions.

Commands in Perse-script are case-insensitive. So to call `substr` function you can write `SUBsTr()`. But you can't print as the result "hElLo" instead of printing "Hello".

See the samples for more information.

Input

A single line containing the correct expression. It is guaranteed that the total length of this expression does not exceed 10^3 and that all the integers used in it are less than or equal to 100 by absolute value. The given string is non-empty.

All strings in the input which are placed between "s consist of uppercase and lowercase Latin letters only.

Output

Print in single line the resulting string. It is guaranteed that an answer exists and that the length of the answer does not exceed 10^4 . It is guaranteed that the answer is non-empty.

Examples

input
"HelloWorld"
output
"HelloWorld"

input

REVerse(substr("helloworld",1,5))
output
"olleh"

input
conCAT(rEverSE("olleh"),"world")
output
"helloworld"

input
reverse(concAT(substr("hello",1,2),sUbstR("world",1,5,1)))
output
"dlroweh"

input
suBstr("Noruz",1,4,2)
output
"Nr"