

**A**

In this problem, you are given a string of parentheses. You have to find the maximum depth the parentheses expression have. Depth of parentheses at any moment is the number of open parentheses.

**Input**

Input file contains a single line of string. Input string contains the following characters set: **()[]{}.**  
0<Length of a String<200

**Output**

Print **maximum depth**.

Sample Input	Output for Sample Input
() []	1
[ { ( ) } ]	3
[ ( ) ] []	2

**B**

Given N person, standing in circular order, you are playing the game of Josephus. The game is played like this. Every time you start counting up to K persons in circle from the current position. You discard the person after you finish counting. Then from that position you again start counting. This process ends, when there is only one person remaining. You start from person 1 at the beginning.

For example, for N = 5, k = 3, the process will go like below:

Begin: 1 2 3 4 5

Step1: You start from 1. 1 2 3 4 5. So you discard 3.

Step2: You start from 4 and circle back. 1 2 4 5. So you discard 1.

Step3: You start from 2. 2 4 5. So you discard 5.

Step4: You start from 2. 2 4. So you discard 2.

So the last person remaining is 4.

**Input**

Input contains, N ( $0 < N \leq 2,00,000$ ) and K ( $0 < K < N$ ).

**Output**

Print the last person remaining.

Sample Input	Output for Sample Input
5 3	4
5 2	3
6 2	5

## C

In this problem, you are given an expression in the Infix format and you have to convert that expression into postfix format. The expression will contain parentheses: ( ), arithmetic operators: ^ \* / + - and variables. However, the variable name will contain only a single lower case character.

Precedence

Highest: ^

Next: \* /

Lowest: + -

For same precedence make sure the expression is converted left to right.

### Input

Input file contains a single line of string which represent the expression in infix format.

0 < Length of a String < 200

### Output

Print the converted expression in postfix format.

Sample Input	Output for Sample Input
a+b	ab+
(a+b) * (b-c)	ab+bc-*
a+b+c	ab+c+

## D

In this problem, you are given an expression in the Infix format and you have to evaluate that expression. The expression will contain parentheses: **( )**, arithmetic operators: **\* / + -** and operands. However, the operand will contain only single digits.

### Precedence

Next: **\* /**

Lowest: **+ -**

For same precedence make sure the expression is evaluated left to right.

### Input

Input file contains a single line of string which represent the expression in infix format.

0<Length of a String<35

### Output

Evaluate the expression.

Sample Input	Output for Sample Input
1+2	3
5*2+3	13
5* (2+3)	25
5/2	2