

Problem A

You are asked to perform a number of calculations involving addition, subtraction, and multiplication of integers. You are guaranteed that the final result (but not necessarily the results of intermediate calculations) is positive and smaller than 10^{1000} .

Input and output

Each line of the input contains either a non-negative integer smaller than 10^{1000} , or a triple $o a b$, where o is an arithmetic operation (+, -, *) and a and b are (not necessarily distinct) line numbers smaller than the number of the current line. The value of the line is computed by performing the operation on the values of the lines a and b . The number of input lines is at most 10^5 , and at most 10 of them contain integers (rather than calculations). Output a single positive integer smaller than 10^{1000} , the value of the last line of the input.

Example

Input:

```
5
* 1 1
* 2 2
* 3 3
417
999
* 5 6
+ 7 1
- 8 4
```

Output:

```
25963
```