

H. 3 < 3 is Wrong Calculation

Time Limit: 3 seconds

Problem description

Binh is a student in a gifted Math class. He is not the best one in the class, but the worst. However, he has a good mind in organizing games for others playing together. He often does many calculations incorrectly, so he has an idea to create a mobile game in which all of his classmates will join into it. The game play is as follow:

- First, one of players raise an equation or an inequation in which both sides are a simple formula with one operation.
- Then, others will have to judge that the result equation or inequation after the calculation of the formula is right or wrong.
- If there are more people choosing wrong answer, Binh wins. Otherwise, Binh loses.

The program needs a core function to compute the formula which is input by user and evaluate its result whether it is right or wrong. Binh don't know how to program the core function of the game, he asked you to help him to write the function.

Input:

A line contains an equation or inequation string in the form as follow:

“<EXPRESSION> <SYMBOL> <EXPRESSION>”

Where <EXPRESSION> is an expression of a formula:

<EXPRESSION> ::= <INTEGER> | (<EXPRESSION> <OPERATOR> <EXPRESSION>)

<INTEGER> ::= <DIGIT> | <INTEGER><DIGIT>

<DIGIT> ::= 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9

<OPERATOR> ::= + | - | * | /

<SYMBOL> ::= < | > | >= | <= | =

The input string is normalized and the integer value is in range from 0 to 10^9 .

Output:

A boolean value in string indicates that the result is right or wrong. If the result is right, the return value is FALSE, otherwise the return value is TRUE.

Example 1:

Input	Output
$(1 + 1) = (3 - 1)$	FALSE

Example 2:

Input	Output
$(3 * 1) < (5 - 2)$	TRUE

Note: Don't worry about "division by zero", there is not any input leading to the kind of error.

Explanation:

In the first example, after calculation, the equation is $2 = 2$, it is right, then FALSE is return.

In the second example, the inequation result is $3 < 3$, it is wrong, then TRUE is return.