Practice Arena

Practice problems aimed to improve your coding skills.

The Prutor Editor

LAB-PRAC-10_MAT-FUN

The Prutor Editor [20 marks]

Problem Statement
We have been using Prutor for a long time now. The Prutor has an excellent editor where we enter our code and edit it. We can enter any visible/whitespace characters, and also move left and right using arrow keys within and across different lines of our code. In this problem, we will implement a very very simple text editor.

The first line of your input will give you a strictly positive integer n denoting the number of operations to be performed. The next n lines will contain those operations. Each operation will be denoted by a single character and will be an instruction to either move the cursor one space to the left or one space to the right or else insert a character. The only characters we will give you are English alphabet characters A-Z, a-z and digits 0-9. Below are given rules on how to implement the editor

1. Initially the string will be empty and the cursor will be at index 0
2. If the instruction is the character '<' (without quotes), move the cursor one index to the left. If the cursor is already at index 0, it stays there.
3. If the instruction is the character '>' (without quotes), move the cursor one index to the right. If the cursor is already at the end of the current input, it does not move.
4. If the instruction is an alphabet or digit character, it gets inserted at the cursor position and the cursor moves one index to the right. However, be careful. If the cursor is at the end of the string, simply append the new character to the end of the string and move the cursor one position right. However, if the cursor is in the middle of the string, first shift all characters to the right of the cursor by one index to the right to create an empty location, then insert the new character at the cursor position, and then move the cursor one index to the right.

After every character insertion operation i.e. when the character is not < or >, print the current state of the string on a separate line after inserting the new character.

Caution

1. We assure you that the total length of the string will never exceed 99 characters.
2. Be careful about extra/missing lines and extra/missing spaces in your output.

EXAMPLE:
INPUT
```
7
a
<
<
b
c
>
d
```

OUTPUT:

```
a
ba
bca
bcad
```

Explanation: The following explains the location of the cursor and the reasoning after every instruction. The location of the cursor is denoted using the pipe symbol.

1. Initially the string is empty
2. Instruction 'a': a|
3. Instruction '<': |a
4. Instruction '<': |a (cursor cannot move any more left)
5. Instruction 'b': b|a
6. Instruction 'c': bc|a
7. Instruction '>': bca|
8. Instruction 'd': bcad|

Grading Scheme:
Total marks: **[20 Points]**

There will be partial grading in this question. There are several lines in your output. Printing each line correctly, in the correct order, carries equal weightage. Each visible test case is worth 2 points and each hidden test case is worth 4 points. There are 2 visible and 4 hidden test cases.

Please remember, however, that when you press Submit/Evaluate, you will get a green bar only if all parts of your answer are correct. Thus, if your answer is only partly correct, Prutor will say that you have not passed that test case completely, but when we do autograding afterwards, you will get partial marks.

Start Solving! (/editor/practice/6198)