B. Drifting Away

time limit per test: 2 seconds
memory limit per test: 512 megabytes

There's a river flowing in front of Monocarp's house, which can be represented as a strip of cells. In some cells, there is a strong current, while in others, there is no current. It can be represented as a string s, consisting of the following characters:

- the "less-than" sign ('<') — leftward current;
- the "greater-than" sign ('>') — rightward current;
- an asterisk ('*') — no current.

At first, Monocarp chooses the cell to start his journey along the river at.

If there is a current in the cell, where Monocarp is at the moment, he is carried to the neighboring cell in the direction of the current. If there is no neighboring cell (i. e., a leftward current in cell 1 or a rightward current in cell n), Monocarp ends up on the shore. Each move takes one minute.

If there is no current in the cell, where Monocarp is at the moment, he rows to the neighboring cell on the left or to the neighboring cell on the right. If there is no neighboring cell in the direction where Monocarp decides to row to, he ends up on the shore. Each move also takes one minute.

Monocarp wants to sail along the river for as long as possible. If Monocarp can sail infinitely, print -1. Otherwise, print the maximum time Monocarp can sail along the river before ending up on the shore.

DeepL 翻译

莫诺卡普家门前有一条流淌的河，它可以表示为一条条的单元格。在一些单元格中，水流湍急，而在另一些单元格中，则没有水流。它可以表示为一个字符串 s ，由以下字符组成：

- 小于 "符号（'<'）--左向电流；
- 大于 "符号（'>'）--右向电流；
- 星号（'*'）--无电流。

一开始，Monocarp 选择了一个单元开始他的沿河之旅。

如果 Monocarp 所在的小区有水流，他就会被带到水流方向的邻近小区。如果没有相邻的单元格（即 1 单元格内有向左的水流，或 n 单元格内有向右的水流），独角仙就会被带到岸边。每次移动需要一分钟。

如果 Monocarp 当前所在的单元格中没有水流，他就会划到左边的邻近单元格或右边的邻近单元格。如果在 Monocarp 决定划去的方向上没有相邻的小格子，那么他最终会划到岸边。每次移动也需要一分钟。

莫诺卡普希望沿河航行的时间越长越好。如果 Monocarp 可以无限航行，则打印 -1 。否则，请打印 Monocarp 沿着河航行到岸边的最长时间。

Input

The first line contains a single integer t ($1 \le t \le 10^4$) — the number of test cases.

The only line of each test case contains a string s ($1 \le |s| \le 3 \cdot 10^5$), consisting only of characters '<' (leftward current), '>' (rightward current), '*' (no current). The ASCII codes are 60, 62, and 42, respectively.

An additional constraint on the input: the total length of strings s over all test cases does not exceed $3 \cdot 10^5$.

有道 翻译

输入** **

第一行包含单个整数 t （ $1 \le t \le 10^4$ ）—测试用例的数量。

每个测试用例的唯一一行包含一个字符串 s（ $1 \le |s| \le 3 \cdot 10^5$ ），仅由字符'<'（向左电流），'>'（向右电流），'*'（无电流）组成。ASCII码分别为 60 、 62 、 42 。

输入的附加约束：所有测试用例中字符串 s 的总长度不超过 $3 \cdot 10^5$ 。

Output

For each test case, output a single integer:

- -1, if Monocarp can sail along the river infinitely;
- the maximum time Monocarp can sail along the river before ending up on the shore, otherwise.

有道 翻译

** **输出

对于每个测试用例，输出一个整数：

- -1 ，如果Monocarp可以沿着河流无限航行；
- Monocarp可以沿着河流航行的最长时间，然后到达岸边，否则。

Example

input Copy

```
4
*****
<<<>
>*<
*
```

output Copy

```
-1
3
-1
1
```

GNU G++20 13.2 (64 bit, winlibs)

```
1
```

▶ 自定义测试数据(自动保存)