Problem 10 – Clearing Commands

As a janitor at SoftUni you have the task to clean all the garbage, left by the students every day. The problem is you can only move through the maze of tables, chairs, internet cables and power plugs following the commands SoftUni team has left at the end of the day.

You are given a matrix, holding 1 or more **strings of ASCII characters**. The strings will come from the console, each on a separate line. These strings will contain all the garbage and commands by the SoftUni team. Your task is to find and execute all the clearing commands within the matrix. The commands are initiated by the following characters:

1. ">" – **Removes** the characters to the **right** and replaces **each** one with **a single space (" ")**.
2. "<" – **Removes** the characters to the **left** and replaces **each** one with **a single space (" ")**.
3. "v" – **Removes** the characters **below** and replaces **each** one with **a single space (" ")**.
4. "^" – **Removes** the characters **above** and replaces **each** one with **a single space (" ")**.

Every command is executed until it reaches another command character or the matrix borders are reached.

Input

The input will be read from the console. Each line will be a string of equal length, holding ASCII characters. The input will end with the command "END".

Output

The output should consist of <p> tags, each holding a row of the matrix (a string).

Note: Make sure you escape all the special characters within the <p> tags with the **SecurityElement.Escape** method.

Constraints

- The strings will contain any ASCII character.
- Allowed working time: 0.1 seconds. Allowed memory: 16 MB.

Examples

Input	Output
| ```
**********
**>****v**
**********
**********
**^****<**
v*********
END
``` | ```
<p>**********</p>
<p>**&gt;    v**</p>
<p>** **** **</p>
<p>** **** **</p>
<p>**^   &lt;**</p>
<p>v*********</p>
``` |

Input	Output
| ```
>basdnbdsdavd
>asdwepoiytr<
END
``` | ```
<p>&gt;          vd</p>
<p>&gt;          &lt;</p>
``` |