

You probably know about HTML, the mark up language used to create Web pages. HTML code contains a number of tags which are expected to follow certain rules.

In this problem we will be concerned with two of these rules:

- 1 Every opening tag has to have a corresponding closing tag
- 2 All tags must be properly nested.

Tags are marked by angled brackets which contain a keyword, such as `<body>` or ``. These are opening tags, the corresponding closing tags having `/` before the keyword, ie `</body>` and ``. It is possible for a tag to be both opening and closing, such as `
`, which complies with rule 1.

A keyword is a single lower case word with no spaces.

To be properly nested, if a tag is opened inside another tag, it must be closed before the other tag closes. For example

`<body> </body>` is properly nested

`<body> </body> ` is not, and breaks rule 2.

Notes

If there are no tags present, the text complies with both rules.

Attributes may be present within an opening tag, such as

```
<a href="http://www.nzprogcontest.org.nz">This is a link</a>
```

The closing tag has only to match the keyword, not the attributes.

Input

Input will consist of a number of lines of HTML code, each line containing from 0 to 255 characters. The last line will contain a single `#` character – do not process this line. Within the text of each line will be zero or more tags. No angle bracket will be present unless it is part of a properly formed tag.

Determine whether or not the HTML meets the rules specified above.

Output

Output will consist of a single line for each line of input. The line will contain either the word `legal`, or the word `illegal`.

[Turn over for sample data]

Sample Input

<body> Oops, this is</body> naughty

<body> Hello
 </body>

Just text, no tags.

<p> Oh dear, we are missing something.

This is a link

#

Output for Sample Input

illegal

legal

legal

illegal

legal