

Problem H1101

Good Hacker

A group of terrorists plan to explode a building somewhere in the city. You, a good hacker, are requested by the government to hack into the terrorist's computer and retrieve their plan in details. You successfully install a keyboard recording software in the terrorist's computer, so that you can receive what the terrorist typed. However, it seems like the experienced terrorist has anti-hacking skills. He not only types characters and spaces, but also press home key, end key, left key and right key frequently to move the cursor. In addition, the terrorist also press backspace to erase the character. Your software can only record what the terrorist type. As a good programmer, you would like to write a program to recover what the terrorist type down finally.

Input

The input consists of a line of string with n ($1 \leq n \leq 3 \cdot 10^5$) characters including lower-case alphabet, "[" as home key, "]" as end key, "<" as left key, ">" as right key, "_" as space and "-" as backspace. Note that the cursor will only move (or erase character) when the action is valid.

Output

Print the text that the terrorist typed. In the case that the result string is empty, print a question mark.

Sample Input 1

```
subwat-y_interchange[location_]
```

Sample Output 1

```
location_subway_interchange
```

Sample Input 2

```
time-----day___d<we>>>>nesday
```

Sample Output 2

```
day_wednesday
```

Sample Input 3

```
aabbcc-----
```

Sample Output 3

```
?
```