**Username**

*Pesho has decided to finally make an account on social media. His problem is that too many people are called Pesho too, so he needs a program that will help him generate an original username and he is asking you for help.*

First, you are going to **receive** **the username** that he wants to use in the first place, then commands.

You will be receiving **commands** until the "**Sign up**" command. There are **six** possible commands:

* **"Case {lower/upper}"**
* **Replace** all letters with lower case or with upper case, then **print** the result.
* "**Reverse {startIndex} {endIndex}"**
* **Reverse** the substring from the **startIndex** until the **endIndex**, then **print** it. Do **NOT** change it in the username.

**Note:** Check if the indexes are valid. If they aren’t - skip the command. The indexes are inclusive.

* "**Cut {substring}"**
* **Check** if the string **contains**  the **substring** and if yes, **cut** it out and **print** the result.
* If the string doesn’t contain the given substring, **print:**

**"The word {string} doesn't contain {substring}."**

* "**Replace {char}"**
* **Replace** all occurences of **char** with **astericks** (**\***) and **print** the result.
* "**Check {char}"**
* In order for a username to be **valid,** it must contain the given **char.**
* If the password is **valid**, print **"Valid"**. If it is **not valid**, print: **"Your username must contain {char}."**

**Input**

* On the **1st line** you are going to receive the **string**.
* On the next **lines**, until the **"Sign up"** command is received, you will be receiving commands.
* All commands are case **sensitive**.

**Output**

* **Print** the **output** of every **command** in the **format** **described** **above**.

**Examples**

|  |  |
| --- | --- |
| **Input** | **Output** |
| Pesho  Case lower  Cut ES  Check @  Sign up | pesho  The word pesho doesn't contain ES.  Your username must contain @. |
| **Input** | **Output** |
| ThisIsMyString  Reverse 1 4  Replace i  Cut My  Sign up | Isih  Th\*sIsMyStr\*ng  Th\*sIsStr\*ng |