**Programming Fundamentals Final Exam Retake 10.04.2020**

* **Problem 1. Secret Chat**

*You have plenty of free time, so you decide to write a program that conceals and reveals your received messages. Go ahead and type it in!*

On the first line of the input you will receive the **concealed message**. After that, until the **"Reveal"** command is given, **you will be receiving strings** with **instructions** for different **operations** that need to be performed upon the **concealed message** in order to **interpret** **it** and reveal its true content. There are several types of instructions, split by **":|:"**

* **InsertSpace:|:{index}**
* Inserts a single **empty space** **at the given index**. The given index will always be valid.
* **Reverse:|:{substring}**
* If the message contains the given **substring**, **cut it out**, **reverse** it and **add** it at the **end** of the message.
* If not, print **"error".**
* This operation should replace only the first occurrence of the given **substring** **if there are more than one such occurrences**.
* **ChangeAll:|:{substring}:|:{replacement}**
* Changes all occurrences of the given substring with the replacement text.

**Input / Constraints**

* On the first line, you will receive a string with message.
* On the next lines, you will be receiving commands, split by **"|"**.

**Output**

* After each set of instructions, print the resulting string.
* After the **"Reveal"** command is received, print this message:  
  "**You have a new text message: {message}**"

**Examples**

|  |  |
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| **Input** | **Output** |
| heVVodar!gniV  ChangeAll:|:V:|:l  Reverse:|:!gnil  InsertSpace:|:5  Reveal | hellodar!gnil  hellodarling!  hello darling!  You have a new text message: hello darling! |
| **Comments** | |
| **ChangeAll:|:V:|:l** heVVodar!gniV -> hellodar!gnil (We replace all occurrences of "V" with "l")  **Reverse:|:!gnil**  hellodar!gnil -> !gnil -> ling! -> hellodarling! (We reverse !gnil to ling! And put it in the end of the string)  **InsertSpace:|:5**  hellodarling! -> hello.darling! (We insert a space at index 5)  Finally, after receiving the **"Reveal"** command, we print the resulting message. | |
| **Input** | **Output** |
| Hiware?uiy  ChangeAll:|:i:|:o  Reverse:|:?uoy  Reverse:|:jd  InsertSpace:|:3  InsertSpace:|:7  Reveal | Howare?uoy  Howareyou?  error  How areyou?  How are you?  You have a new text message: How are you? |