Problem 2 - Shopping List

Problem for exam preparation for the Programming Fundamentals Course @SoftUni.
Submit your solutions in the SoftUni judge system at https://judge.softuni.org/Contests/Practice/Index/2031#1.

It's the end of the week, and it is time for you to go shopping, so you need to create a shopping list first.

Input

You will receive an **initial list** with groceries separated by an exclamation mark **"!"**.

After that, you will be receiving **4 types** of commands until you receive **"Go Shopping!"**.

- **"Urgent {item}"** - **add** the item at the **start** of the list. If the item **already exists,** skip this command.
- **"Unnecessary {item}"** - **remove** the item with the given name, only **if it exists** in the list. Otherwise, skip this command.
- **"Correct {oldItem} {newItem}"** - if the item with the given **old name** exists, **change** its name with the **new** one. Otherwise, skip this command.
- **"Rearrange {item}"** - if the grocery exists in the list, **remove** it from its **current position** and **add** it at the **end** of the list. Otherwise, skip this command.

Constraints

- There won't be any duplicate items in the initial list

Output

- Print the **list** with all the groceries, joined by **", "**:
  "{firstGrocery}, {secondGrocery}, … {nthGrocery}"

Examples

Input	Output
Tomatoes!Potatoes!Bread Unnecessary Milk Urgent Tomatoes Go Shopping!	Tomatoes, Potatoes, Bread

Input	Output
Milk!Pepper!Salt!Water!Banana Urgent Salt Unnecessary Grapes Correct Pepper Onion Rearrange Grapes	Milk, Onion, Salt, Water, Banana

Follow us:

`Correct Tomatoes Potatoes` `Go Shopping!`	

JS Examples

Input	Output

`(["Tomatoes!Potatoes!Bread",`
`"Unnecessary Milk",`
`"Urgent Tomatoes",`
`"Go Shopping!"])`
	`Tomatoes, Potatoes, Bread`

Input	Output

`(["Milk!Pepper!Salt!Water!Banana",`
`"Urgent Salt",`
`"Unnecessary Grapes",`
`"Correct Pepper Onion",`
`"Rearrange Grapes",`
`"Correct Tomatoes Potatoes",`
`"Go Shopping!"])`
	`Milk, Onion, Salt, Water, Banana`