Problem 2 - Shopping List

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", "Correct Tomatoes Potatoes", "Go Shopping!"])	Milk, Onion, Salt, Water, Banana

Follow us: