

Problem 3 - Phone Shop



Kevin has a phone shop. He has to order new models, but his storage is so large that he doesn't know which phone models he has.

Write a program that will help Kevin not to buy unnecessary phones. You will receive a list of phones separated by ", " (comma and space). After that, until you receive "End", you will receive different commands, each on a new line. The commands are:

- **"Add - {phone}":**
 - Add the given phone to the storage.
 - If the phone already **exists**, you should **skip** this line.
- **"Remove - {phone}":**
 - Remove the phone from the storage **if it exists**.
 - Otherwise, **ignore** the command.
- **"Bonus phone - {oldPhone}:{newPhone}":**
 - If the **old phone exists**, add the new phone **after** the **old one**.
 - Otherwise, **ignore** the command.
- **"Last - {phone}":**
 - If the given **phone exists**, you should change its position and **put it last** in your storage.
 - Otherwise, **ignore** the command.

Input

- On the **first line** - list of phones separated by ", " (comma and space)
- On the **next lines** - commands until you receive "End"

Output

- After receiving the "End" command, print the phones in your storage, separated by ", " (comma and space).

Examples

Input	Output
SamsungA50, MotorolaG5, IphoneSE Add - Iphone10 Remove - IphoneSE End	SamsungA50, MotorolaG5, Iphone10

HuaweiP20, XiaomiNote Remove - Samsung Bonus phone - XiaomiNote:Iphone5 End	HuaweiP20, XiaomiNote, Iphone5
SamsungA50, MotorolaG5, HuaweiP10 Last - SamsungA50 Add - MotorolaG5 End	MotorolaG5, HuaweiP10, SamsungA50

JS Examples

The input will be an array of strings.

Input	Output
(["SamsungA50, MotorolaG5, IphoneSE", "Add - Iphone10", "Remove - IphoneSE", "End"])	SamsungA50, MotorolaG5, Iphone10
(["HuaweiP20, XiaomiNote", "Remove - Samsung", "Bonus phone - XiaomiNote:Iphone5", "End"])	HuaweiP20, XiaomiNote, Iphone5
(["SamsungA50, MotorolaG5, HuaweiP10", "Last - SamsungA50", "Add - MotorolaG5", "End"])	MotorolaG5, HuaweiP10, SamsungA50