

Problem 2. Easter Gifts

As a good friend, you decide to buy presents for your friends.

Create a program that helps you plan the gifts for your friends and family. First, you are going to **receive the gifts** you plan on buying on a **single line, separated by space**, in the following **format**:

"{gift₁} {gift₂} {gift₃}... {gift_n}"

Then you will start receiving **commands** until you read the **"No Money"** message. There are **three** possible commands:

- **"OutOfStock {gift}"**
 - Find **the gifts** with **this name** in your collection, **if there are any**, and change their values to **"None"**.
- **"Required {gift} {index}"**
 - **Replace** the value of the **current gift** on the given index **with this gift**, if the **index** is **valid**.
- **"JustInCase {gift}"**
 - **Replace** the value of your **last gift with this one**.

In the end, print the **gifts** on a **single line, except the ones** with value **"None"**, separated by a **single space** in the following format:

"{gift₁} {gift₂} {gift₃}... {gift_n}"

Input / Constraints

- On the **1st line** you are going to receive the **names of the gifts**, separated by a single space.
- On the next **lines**, until the **"No Money"** command is received, you will be receiving commands.
- The **input** will **always** be **valid**.

Output

- Print the gifts in the **format described above**.

Examples

Input	Output
Eggs StuffedAnimal Cozonac Sweets EasterBunny Eggs Clothes OutOfStock Eggs Required Spoon 2 JustInCase ChocolateEgg No Money	StuffedAnimal Spoon Sweets EasterBunny ChocolateEgg
Comments	

First, we receive the command "**OutOfStock**" and we need to replace the values of "**Eggs**" with "**None**". After this command the list should look like this:

None StuffedAnimal Cozonac Sweets EasterBunny None Clothes .

Afterwards, we receive the "**Required**" command and we need to replace the value on the 2nd index of our list with the value "**Spoon**". The list should look like this:

None StuffedAnimal Spoon Sweets EasterBunny None Clothes

After, we receive the "**JustInCase**" command, which means we need to replace the last value in our list with "**ChocolateEggs**". The list should look like this:

None StuffedAnimal Spoon Sweets EasterBunny None ChocolateEggs

In the end, we print all of the gifts, except the ones with values "**None**". This is the result list:

StuffedAnimal Spoon Sweets EasterBunny ChocolateEggs

Sweets Cozonac Clothes Flowers Wine Clothes Eggs Clothes Required Paper 8 OutOfStock Clothes Required Chocolate 2 JustInCase Hat OutOfStock Cable No Money	Sweets Cozonac Chocolate Flowers Wine Eggs Hat