Problem 2 - Coffee Lover

John is a lover of expensive and luxurious coffees.

Create a program that helps John keep track of the coffee he has. You will receive a list of the coffees that John has in stock, on a single line **separated** by a **single space** in the following format:

"{coffee1} {coffee2} {coffee3} ... {coffeeNn}".

Then you will receive a number – **n** - a **count** of **commands** you need to execute over your list. There are **four possible commands**:

- **"Include {coffee}"**:
  - **Add** the coffee **at the end of your list.**
- **"Remove {first/last} {numberOfCoffees}"**:
  - **Depending on the input, remove either the "first" or the "last" number of coffees from your list**.
  - If you have **fewer coffees** in your list than the **given number**, **skip** this command.
- **"Prefer {coffeeIndex$_1$} {coffeeIndex$_2$}"**:
  - **If both coffee indexes exist** in your list, take the two coffees and **change their places**.
  - Otherwise, **skip** the command.
- **"Reverse"**:
  - **Reverse** the order of the coffees.

In the end, **print** the **manipulated list** in the following format:

"Coffees:

{coffee$_1$} {coffee$_2$} … {coffeeNn}"

Input / Constraints

- On the **1st line**, you will receive the **starting list** with the **names of the coffees separated** by a **" " (empty space)**.
- On the **2nd line**, you will receive the number of commands - **n – an integer in the range [1…100].**
- On the following **n** lines, you will be receiving commands in the **format described** above.

Output

- Print the **list after** the **manipulations** in the **format described** above.

Examples

Input	Output
Arabica Liberica Charrieriana Magnistipula Robusta BulkCoffee StrongCoffee	Coffees: StrongCoffee Magnistipula Robusta BulkCoffe Charrieriana

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5 Include TurkishCoffee Remove first 2 Remove last 1 Prefer 3 1 Reverse	

Comments
First, we receive the "**Include**" and the name of the coffee: we **add** the coffee to our **list**. The collection should look like this: **Arabica Liberica Charrieriana Magnistipula Robusta BulkCoffee StrongCoffee TurkishCoffee** Next, we receive the "**Remove**" command and the keyword "**first**": we take **the first 2 coffees** and **remove** them. The collection should look like this: **Charrieriana Magnistipula Robusta BulkCoffee StrongCoffee TurkishCoffee**. After that, we receive the "**Remove**" command and the keyword "**last**": we **remove the last 1 coffee**. The collection should look like this: **Charrieriana Magnistipula Robusta BulkCoffee StrongCoffee**. Next, we receive the "**Prefer**" command: we find the coffee at index 3 and replace it with the coffee at index 1. The collection should look like this: **Charrieriana BulkCoffee Robusta Magnistipula StrongCoffee**. At last, we receive the "**Reverse**" command: we make a **reverse** list. Our final collection looks like this: **StrongCoffee Magnistipula Robusta BulkCoffe Charrieriana**.

Arabica Robusta BulkCoffee StrongCoffee TurkishCoffee 5 Include OrdinaryCoffee Remove first 1 Prefer 0 1 Prefer 3 1 Reverse	Coffees: OrdinaryCoffee Robusta StrongCoffee TurkishCoffee BulkCoffee
Robusta StrongCoffee BulkCoffee TurkishCoffee Arabica 3 Include OrdinaryCoffee	Coffees: StrongCoffee OrdinaryCoffee TurkishCoffee Arabica BulkCoffee

Remove first 1 Prefer 4 1	

JS Examples

The input will be provided as an array of strings.

Input	Output
(["Arabica Liberica Charrieriana Magnistipula Robusta BulkCoffee StrongCoffee", "5", "Include TurkishCoffee", "Remove first 2", "Remove last 1", "Prefer 3 1", "Reverse"])	Coffees: StrongCoffee Magnistipula Robusta BulkCoffe Charrieriana
Comments	

First, we receive the "**Include**" and the name of the coffee: we **add** the coffee to our **list**. The collection should look like this: **Arabica Liberica Charrieriana Magnistipula Robusta BulkCoffee StrongCoffee TurkishCoffee**

Next, we receive the "**Remove**" command and the keyword "**first**": we take **the first 2 coffees** and **remove** them. The collection should look like this: **Charrieriana Magnistipula Robusta BulkCoffee StrongCoffee TurkishCoffee**.

After that, we receive the "**Remove**" command and the keyword "**last**": we **remove the last 1 coffee**. The collection should look like this: **Charrieriana Magnistipula Robusta BulkCoffee StrongCoffee**.

Next, we receive the "**Prefer**" command: we find the coffee at index 3 and replace it with the coffee at index 1. The collection should look like this: **Charrieriana BulkCoffee Robusta Magnistipula StrongCoffee**.

At last, we receive the "**Reverse**" command: we make a **reverse** list. Our final collection looks like this: **StrongCoffee Magnistipula Robusta BulkCoffe Charrieriana**.

(["Arabica Robusta BulkCoffee StrongCoffee TurkishCoffee", "5", "Include OrdinaryCoffee", "Remove first 1", "Prefer 0 1", "Prefer 3 1", "Reverse"])	Coffees: OrdinaryCoffee Robusta StrongCoffee TurkishCoffee BulkCoffee
(["Robusta StrongCoffee BulkCoffee TurkishCoffee Arabica", "3", "Include OrdinaryCoffee", "Remove first 1", "Prefer 4 1"])	Coffees: StrongCoffee OrdinaryCoffee TurkishCoffee Arabica BulkCoffee