# Problem 3 - Paintings' Numbers



*A group of friends went to visit "La Louvre". They accidentally found a map behind "The Wedding at Canna" painting. It had some instructions, so they decided to follow them and see where they would lead them. Could you help them?*

Create a program that follows instructions to fulfill a quest. First, you will receive a collection of numbers – each **representing** a **painting's accession number**. After that, you will be receiving **instructions** until the **"END"** command is given. The possible commands are:

* "Change {paintingNumber} {newNumber}":
  + **Change** the **painting's number** with the **new one given**.
  + If the painting number **does not exist**, **ignore** the command.
* "Hide {paintingNumber}":
  + **Remove** **the painting** with the **given number**.
  + If the painting number **does not exist**, **ignore** the command.
* "Switch {paintingNumber1} {paintingNumber2}":
  + **Switch** **the places of paintings** with the given numbers.
  + If at least one of the paintings **does not exist**, **ignore** the command.
* "Insert {index} {paintingNumber}":
  + **Insert** the painting with the given number **on the index after** the givenone **if the resulting index exists**.
  + Otherwise, **skip** the command.
* "Reverse":
  + **Reverse** the **order** of the paintings.

Once you complete the instructions, **print the numbers** of the paintings on a **single line, separated by a space**.

### Input

* **On the first line**, you are going to receive the numbers of the paintings, separated by a single space – **integer numbers** in the range **[1…1000].**
* **On the following lines**, you are going to receive **commands** until you receive the **"END"** command.

### Output

* Print the final numbers on a single line, separated by a space.

## **Examples**

|  |  |
| --- | --- |
| **Input** | **Output** |
| 115 101 114 73 111 116 75  Insert 5 114  Switch 116 73  Hide 76  END | 115 101 114 116 111 73 114 75 |
| 77 120 115 101 97 78 88 112 111 108 110  Switch 97 98  Hide 88  Change 120 117  END | 77 117 115 101 97 78 112 111 108 110 |
| 65 304 97 79 12 659  Reverse  Change 73 70  Insert 10 85  END | 659 12 79 97 304 65 |