Create a program that helps you keep track of a number array. First, you are going to **receive** **the numbers** оn a **single line,** **separated** **by** **space**, in the following **format**:

**"{number1} {number2} {number3}… {numbern}"**

Then you will start receiving **commands** until you read the "**End**" message. There are **five** possible commands:

* **"Switch {index}"**
  + Find **the number** on this **index** in your collection, if the **index** **exists**, and **switch** its **sign** (negative <-> positive).
* "**Change {index} {value}**"
  + **Replace** the **number** on the given index **with the number given,** if the **index** **exists**.
* "**Sum Negative"**
  + Print the **sum** of **all** **negative** **numbers**.
* "**Sum Positive"**
  + Print the **sum** of **all** **positive** **numbers**.
* "**Sum All"**
  + Print the **sum** of **all** **numbers**.

In the end, print the **positive** **numbers** on a **single** **line, keeping in mind that 0 is positive,** separated by a **single** **space** in the following format:

**"{number1} {number2} {number3}… {numbern}"**

## Input

* On the **1st line** you are going to receive the **numbers of the array** (always **integers**), separated by a single space.
* On the next **lines**, until the **"End"** command is received, you will be receiving commands.

## Output

* Print the tasks in the **format** **described** **above**.

## Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| 1 2 3 4 5 Switch 4 Change 0 -3 Sum Negative End | -8 2 3 4 |
| **Comments** | |
| First, we receive the command "**Switch 4**" and we make the number on index 4 **negative** (because it is **positive** **before** the **command**). After this command, the task collection looks like this:  **1 2 3 4 -5**  Afterwards, we receive the "**Change 0 -3**" command and we need to change the number on index 0 with the number -3. The collection looks like this now:  **-3 2 3 4 -5**  After that, we receive the "**Sum Negative**" command, which means we need to print the sum of all negative numbers and it is **-8**.  In the end, we print all of the **positive numbers**. This is the result collection:  **2 3 4** | |
|  | |
| 1 2 3 4 5 4 3 2 1 0 Switch -4 Change 13 0 Switch 0 Sum All End | 23 2 3 4 5 4 3 2 1 0 |