Problem 3 - School Library



Your task is to do an online book library.

On the first line, you will receive a string representing a shelf with books in the library. Every book is separated with "&".

On the next lines until the "Done" command, you will be receiving the commands separated with " | ":

- "Add Book | {book name}":
 - o Add the book in the first place on the shelf.
 - o If the book is already present on the shelf, ignore the command.
- "Take Book | {book name}":
 - o Remove the book with the given name only if the book is on the shelf.
 - o Otherwise, ignore this command.
- "Swap Books | {book1} | {book2}":
 - o If both books are on the shelf, swap their places.
 - o If at least one is **missing**, **ignore** the command.
- "Insert Book | {book name}":
 - o Add the given book at the end of the shelf.
 - o If the book is already present on the shelf, ignore the command.
- "Check Book | {index}":
 - o Print the name of the book, which is at the given index.
 - o If the index is **invalid**, **ignore** the command.

Input

- On the 1st line, you will receive a string representing a shelf with books in the library, separated by "&".
- On the following lines, until you receive "Done", you will be receiving commands in the format described above.

Output

Print the **collection** of books joined by ", ": "{firstBook}, {secondBook}, ... {lastBook}"

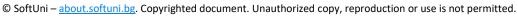
Constraints

You won't receive duplicate book names in the initial list of books.

Examples

| Input | Output |
|--|--|
| Don Quixote&The Great Gatsby&Moby Dick | Ulysses, The Great Gatsby, Moby Dick, Alice's Adventures in Wonderland |
| Add Book Ulysses | |
| Take Book Don Quixote | |
| Insert Book Alice's Adventures in Wonderland | |
| Done | |

















| Catch-22, Heart of Darkness, Anna Karenina, The Stranger |
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| Ulysses |
| War and Peace, Hamlet, Ulysses, |
| Madame Bovary |
| |
| |

JS Examples

The input will be provided as an array of strings.

| Input | Output |
|--|---|
| <pre>(["Don Quixote&The Great Gatsby&Moby Dick",</pre> | Ulysses, The Great Gatsby, Moby Dick, Alice's Adventures in Wonderland |
| "Take Book Don Quixote", | |
| "Insert Book Alice's Adventures in | |
| Wonderland", | |
| "Done"]) | |
| (["Anna Karenina&Heart of Darkness&Catch- | Catch-22, Heart of Darkness, Anna |
| 22&The Stranger", | Karenina, The Stranger |
| "Add Book Catch-22", | |
| "Swap Books Anna Karenina Catch-22", | |
| "Take Book David Copperfield", | |
| "Done"]) | |
| (["War and Peace&Hamlet&Ulysses&Madame | Ulysses |
| Bovary", | War and Peace, Hamlet, Ulysses, Madame |
| "Check Book 2", | Bovary |
| "Swap Books Don Quixote Ulysses", | |
| "Done"]) | |

