# QA Back-End Technologies Basics

# Exam Prep II

You can check your solutions in [Judge](https://judge.softuni.org/Contests/Practice/Index/4699#0).

Annie mixed up the order of the products in the shop and now the customers are confused. In order to sell the products correctly, you need to sort them out. Write a function shop(products) that solves this problem

The function receives an array.

As the first element of the input array, you will receive an integer **n** – the number of products.

On the next **n** elements are the products' names.

After you have successfully extracted the products, you will be navigating through a series of commands, each as element of the input array.

* "**Sell**" command – you must remove the product at the first position in the array and print: "**{product name} product sold!**"
* "**Add {product name}**" – place the given product name at the end of the array
* "**Swap {start index} {end index}**" – swap the products in the given index range and print: "**Swapped!**"
* "**End**" – the arraging is finished, and print product names left if there are any: "**Products left: {product1}, {product2}, {product3}, …**"

In case there are **no products left**, print: "**The shop is empty**".

The program ends when there are no more commands or you receive a command "**End**".

If a command does **not match** the pattern (unrecognized keyword or a missing argument, etc.), it should be **ignored**.

Check if the given indexes are valid.

### Input

* On the first line of the array input, you will receive an integer **n.**
* On the following **n** elements, the products themselves.
* You will be receiving different **commands**, each as the next element of the input array, until the "**End**" command element.

### Output

On the first line print the remaining products in the array in the following format: "Products left: {product1}, {product2}, {product3}, …"

In case there are no products left, print "**The shop is empty**".

Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| shop(['3', 'Apple', 'Banana', 'Orange', 'Sell', 'End', 'Swap 0 1']) | Apple product sold!  Products left: Banana, Orange |
| shop(['5', 'Milk', 'Eggs', 'Bread', 'Cheese', 'Butter', 'Add Yogurt', 'Swap 1 4', 'End']) | Swapped!  Products left: Milk, Butter, Bread, Cheese, Eggs, Yogurt |
| shop(['3', 'Shampoo', 'Soap', 'Toothpaste', 'Sell', 'Sell', 'Sell', 'End']) | Shampoo product sold!  Soap product sold!  Toothpaste product sold!  The shop is empty |