Lab: Lists

Test your tasks in the Judge system: https://judge.softuni.org/Contests/4429

1. Change List

Write a program that:

- **Reads a list of integers** from the console and receives **commands** to **manipulate the list**
- Then until you receive **"end"**, you will receive different **commands:**
  - **"Delete {element}"** – delete all elements in the list, which are equal to the given element
  - **"Insert {element} {position}"** – insert the element at the given position
- When you receive the **"end"** command, print the **final state** of the list (**separated by spaces**)

Example

Input	Output
1 2 3 4 5 5 5 6 Delete 5 Insert 10 1 Delete 5 end	1 10 2 3 4 6
20 12 4 319 21 31234 2 41 23 4 Insert 50 2 Insert 50 5 Delete 4 end	20 12 50 319 50 21 31234 2 41 23

2. List of Products

Write a program that:

- Read an integer number **n** and **n lines of products**
- Print a **numbered list** of all the products **ordered by name**

Example

Input	Output
4 Potatoes Tomatoes Onions Apples	1.Apples 2.Onions 3.Potatoes 4.Tomatoes
5 Carrots Artichokes Beans Eggplants Peppers	1.Artichokes 2.Beans 3.Carrots 4.Eggplants 5.Peppers

3. Remove Negatives and Reverse

Write a program that:

- Read a **list of integers**
- **Remove all negative numbers** from it
- Print the remaining elements in **reversed order**
- If there are no elements left in the list, print **"empty"**

Example

Input	Output
10 -5 7 9 -33 50	50 9 7 10
7 -2 -10 1	1 7
-1 -2 -3	empty

4. List Manipulation Basics

Write a program that:

- Reads a list of integers
- Then until you receive **"end"**, you will receive different **commands:**
    - **"Add {number}":** add a number to the end of the list
    - **"Remove {number}":** remove a number from the list
    - **"RemoveAt {index}":** remove a number at a given index
    - **"Insert {number} {index}":** insert a number at a given index
- When you receive the **"end"** command, print the **final state** of the list (**separated by spaces**)

Note: All the indices will be valid!

Example

Input	Output
4 19 2 53 6 43 Add 3 Remove 2 RemoveAt 1 Insert 8 3 end	4 53 6 8 43 3
23 1 456 63 32 87 9 32 Remove 5 Add 1 Insert 14 2 RemoveAt 3 Add 34 end	23 1 14 63 32 87 9 32 1 34

5. List Manipulation Advanced

Write a program that:

- Reads a list of integers
- Then until you receive **"end"**, you will receive different **commands:**
  - **"Contains {number}"** – check if the list contains the number and if so - print **"Yes"**, **otherwise** print **"No such number"**
  - **"PrintEven"** – print **all the even numbers**, **separated by a space**
  - **"PrintOdd"** – print **all the odd numbers, separated by a space**
  - **"GetSum"** – print the **sum of all the numbers**
  - **"Filter {condition} {number}"** – left in the list all the numbers that **fulfill the given condition**. The condition will be either **'<', '>', ">=", "<="**
- When you receive the **"end"** command, print the **final state** of the list (**separated by spaces**)

Example

Input	Output
5 34 678 67 5 563 98 Contains 23 PrintOdd GetSum Filter >= 21 end	No such number 5 67 5 563 1450 34 678 67 563 98
2 13 43 876 342 23 543 Contains 100 Contains 543 PrintEven PrintOdd GetSum Filter >= 43 Filter < 100 end	No such number Yes 2 876 342 13 43 23 543 1842 43

Follow us: