Hello, **2024101067**.

Sorted Singly Linked List

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Points: 100 (partial)
Time limit: 1.0s
Memory limit: 256M

Allowed languages
C

You are given an existing sorted singly linked list, and you need to perform operations to insert, delete, or print the elements of the list. The linked list must always remain sorted after performing any insertion or deletion operations.

Your task is to implement the following three operations:

- Insert a number into the linked list, ensuring it remains sorted.
- Delete a number from the linked list. If the number exists in the list at least once, delete only one occurrence of it. If the number does not exist, do nothing.
- Print the elements of the linked list in a single line.

Input Format

- The first line contains an integer `n`, the number of elements in the existing sorted linked list.
- The second line contains `n` space-separated integers, representing the elements of the existing sorted linked list.
- The third line contains an integer `t`, the number of tasks to perform.
- The next `t` lines each represent a task:
  - For an insertion, the line is of the form: `1 x`, where `x` is the number to insert into the linked list.
  - For a deletion, the line is of the form: `2 x`, where `x` is the number to delete from the linked list. Only one occurrence is removed if the number exists.
  - For a print operation, the line is: `3`.

Output Format

- For each print operation (`3`), output the current elements of the linked list in a single line, separated by spaces.

- $1 \le n \le 10^3$
- $1 \le t \le 10^3$
- $1 \le x \le 10^9$

Example

Input

```
3
1 3 5
4
1 4
2 3
1 2
3
```

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Output

```
1 2 4 5
```

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Clarifications

Request clarification

No clarifications have been made at this time.