

For this problem, we have **2** types of queries you can perform on a [List](#):

1. Insert y at index x :

```
Insert
x y
```

2. Delete the element at index x :

```
Delete
x
```

Given a list, L , of N integers, perform Q queries on the list. Once all queries are completed, print the modified list as a single line of space-separated integers.

Input Format

The first line contains an integer, N (the initial number of elements in L).

The second line contains N space-separated integers describing L .

The third line contains an integer, Q (the number of queries).

The $2Q$ subsequent lines describe the queries, and each query is described over two lines:

- If the first line of a query contains the String **Insert**, then the second line contains two space separated integers x y , and the value y must be inserted into L at index x .
- If the first line of a query contains the String **Delete**, then the second line contains index x , whose element must be deleted from L .

Constraints

- $1 \leq N \leq 4000$
- $1 \leq Q \leq 4000$
- Each element in is a 32-bit integer.