Bored at the market

You are observing a queue of people at the supermarket and can clearly see the number of items with each customer. At any moment people can join(only from the back) or leave the queue(only from the front).

You are there with a friend who will ask you the number of items that the yth customer from the front of the queue has.

There are 3 types of queries:

      1 y (your friends asks you the number of items that the yth customer has)

      2 x (a new customer with x items joins the queue)

      3   (customer at the front of the queue is done with his transaction and leaves)

NOTE:You are required to use the Linked List approach

Input

The first line of input consists of an integer **N(1 <= N <= 100)**, the number of people in the queue initially.

The second line of input consists of **N** space-separated integers that represent the number of items of each customer, i.e.

A0, A1, …, AN-1 (where A0 is the number of items with the customer at the front of the queue, and AN-1 is the number of items with the customer at the end of the queue, 1<=Ai<=100)

The third line consists of an integer **Q(1<=Q<=100),** the number of queries.

The next Q lines will be of the form as described above.

Output

You only have give output for the 1st type of query, i.e. the number of items with the yth customer

Sample Test Case

Input - 1

4

2 3 2 5

5

1 1 (This is the first type of query where you have to return the number of items with the first customer, in this case 2)

3   (This is the third type of query where the customer at the top of the queue leaves)

2 6 (This is the second type of query where a new customer joins with 6 items)

1 1
1 2

Output - 1
2
3
2