

Manipulate List

Now there is a list consisting many integers. You are required to deal with the following operations on the list.

1. Insert : insert an integer at a certain position
2. Delete : delete the i-th element in the current list
3. Reverse : reverse elements from i-th element to j-th element(i,j inclusive).(eg:"1 2 3" -> "3 2 1")
4. Query : output the wanted element in the list

Input

The test file consists of a single test case.

The first line contains a number N ($1 \leq N \leq 1000$) indicating the initial number of elements in the list. Then there will be N integers representing the initial elements in the list. Next line will be an integer Q($1 \leq Q \leq 50$) which means the number of operations. After that, there will be Q lines of operations in the following format:

- (1) 1 i val : insert "val" after the i-th element
- (2) 2 i :delete element at i-th position
- (3) 3 i j: reverse interval [i,j] of the list
- (4) 4 i: output the i-th element in the list

Output

For each type (4) operation in the input, print the corresponding output in one line.

Sample Input	Sample Output
6 1 2 3 4 5 6 12 1 3 10 2 1 4 4 3 3 5 4 3 2 2 1 2 7 3 1 4 4 2 2 5 3 2 5 4 4	4 5 7 5