Give Away

You are given a **1-indexed** array **X**, consisting of **N** integers, and a set of **Q** queries. There are two kinds of queries:

1. **0 a b c**
   Here you are required to return the number of elements with indices in **[a,b]** greater than or equal to **c**
2. **1 a b**
   Here you are required to change the **a**th element of array to **b**.

Input Format:

First line contains **N**, the number of elements in the array **X**. The next line contains **N** space separated integers representing the elements of **X**. The third line of input contains a single integer, **Q**, the number of queries. The next **Q** lines of input each contain queries of two kinds as described above.

Output Format:

Q lines with the ith line contains the answer for the **i**th query

Constraints:

$1 \leq N \leq 5*10^5$
$1 \leq Q \leq 10^5$
$1 \leq X[i] \leq 10^9$
$1 \leq a \leq b \leq N$ for query type 0
$1 \leq a \leq 10^5, 1 < b \leq 10^9$ for query type 1
$1 \leq c \leq 10^9$

Example

Sample Input:
5
1 2 3 4 5
3
0 1 5 10
1 2 20
0 1 3 10

Sample Output:
0
1

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