

未找到(<https://vjudge.net/>)

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## F - Pyramid Alignment

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Time Limit: 2 sec / Memory Limit: 1024 MiB

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禁止在正在进行的 AtCoder 比赛中使用生成式 AI。请参考下面的规则了解详情。

AtCoder 对于生成式 AI 的规定 - 20251003 版本 (<https://info.atcoder.jp/entry/llm-rules-en>)

注意此规则已于 2025 年 10 月 3 日更新。详情请见这篇文章 (<https://atcoder.jp/posts/1568>)。

Score : 525 points



### Problem Statement

There are  $N$  intervals on a number line, numbered from 1 to  $N$ .

The left endpoint of interval  $i$  is at coordinate 0, and the right endpoint is at coordinate  $W_i$ . Here,  $W_1 < W_2 < \dots < W_N$ .

You are given  $Q$  queries; process them in the order they are given. Each query is one of the following three types:

- Type 1 (1  $v$ ): Let  $l$  be the coordinate of the current **left endpoint** of interval  $v$ . Translate each of the intervals numbered  $v$  or less so that its **left endpoint** is at coordinate  $l$ .
- Type 2 (2  $v$ ): Let  $r$  be the coordinate of the current **right endpoint** of interval  $v$ . Translate each of the intervals numbered  $v$  or less so that its **right endpoint** is at coordinate  $r$ .
- Type 3 (3  $x$ ): Output the current number of intervals that contain coordinate  $x + \frac{1}{2}$ .



### Constraints

- $1 \leq N \leq 2 \times 10^5$
- $1 \leq Q \leq 2 \times 10^5$
- $1 \leq W_i \leq 10^9$  ( $1 \leq i \leq N$ )
- $W_1 < W_2 < \dots < W_N$
- For  $v$  given in queries of types 1 and 2,  $1 \leq v \leq N$ .
- For  $x$  given in queries of type 3,  $0 \leq x \leq 10^9$ .
- At least one query of type 3 is given.
- All input values are integers.



### Input

The input is given from Standard Input in the following format:

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$N$   
 $W_1 \dots W_N$   
 $Q$   
 $\text{query}_1$   
 $\text{query}_2$   
 $\vdots$   
 $\text{query}_Q$

$\text{query}_j$  represents the  $j$ -th query. Each query is given in one of the following formats:

1  $v$

2  $v$

3  $x$



## Output

Let  $q$  be the number of queries of type 3, output  $q$  lines. The  $j$ -th line ( $1 \leq j \leq q$ ) should contain the answer to the  $j$ -th query of type 3.



## Sample Input 1

Copy

```
4
2 4 6 10
5
2 3
1 2
3 2
2 4
3 1
```

Copy



## Sample Output 1

Copy

```
4
1
```

Copy

Initially, the intervals in order of their numbers are  $[0, 2]$ ,  $[0, 4]$ ,  $[0, 6]$ ,  $[0, 10]$ .

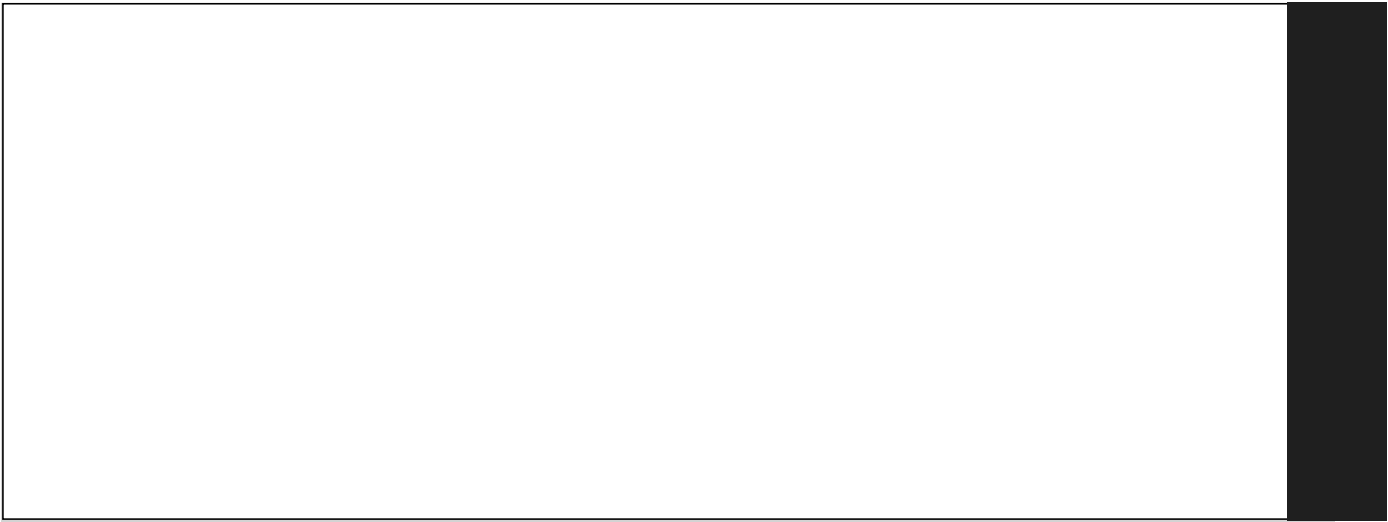
- For the 1st query, the coordinate of the **right endpoint** of interval 3 before the operation is 6, so the intervals after the operation are  $[4, 6]$ ,  $[2, 6]$ ,  $[0, 6]$ ,  $[0, 10]$  in order of their numbers.
- For the 2nd query, the coordinate of the **left endpoint** of interval 2 before the operation is 2, so the intervals after the operation are  $[2, 4]$ ,  $[2, 6]$ ,  $[0, 6]$ ,  $[0, 10]$  in order of their numbers.
- For the 3rd query, the intervals that contain coordinate  $2 + \frac{1}{2}$  are intervals 1, 2, 3, 4, which is four intervals, so output 4.
- For the 4th query, the coordinate of the **right endpoint** of interval 4 before the operation is 10, so the intervals after the operation are  $[8, 10]$ ,  $[6, 10]$ ,  $[4, 10]$ ,  $[0, 10]$  in order of their numbers.
- For the 5th query, the intervals that contain coordinate  $1 + \frac{1}{2}$  is only interval 4, which is one interval, so output 1.

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1

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