

## Problem A. Cumulative Sum Query

<b>Time limit</b>	7000 ms
<b>Mem limit</b>	1572864 kB
<b>Code length Limit</b>	50000 B
<b>OS</b>	Linux

William Macfarlane wants to look at an array.

You are given a list of  $N$  numbers and  $Q$  queries. Each query is specified by two numbers  $i$  and  $j$ ; the answer to each query is the sum of every number between the range  $[i, j]$  (inclusive).

*Note:* the query ranges are specified using 0-based indexing.

### Input

The first line contains  $N$ , the number of integers in our list ( $N \leq 100,000$ ). The next line holds  $N$  numbers that are guaranteed to fit inside an integer. Following the list is a number  $Q$  ( $Q \leq 10,000$ ). The next  $Q$  lines each contain two numbers  $i$  and  $j$  which specify a query you must answer ( $0 \leq i, j \leq N-1$ ).

### Output

For each query, output the answer to that query on its own line in the order the queries were made.

### Example

**Input:**

```
3
1 4 1
3
1 1
1 2
0 2
```

**Output:**

```
4
5
6
```