

## B. Kuriyama Mirai's Stones

time limit per test: 2 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

Kuriyama Mirai has killed many monsters and got many (namely  $n$ ) stones. She numbers the stones from 1 to  $n$ . The cost of the  $i$ -th stone is  $v_i$ . Kuriyama Mirai wants to know something about these stones so she will ask you two kinds of questions:

1. She will tell you two numbers,  $l$  and  $r$  ( $1 \leq l \leq r \leq n$ ), and you should tell her  $\sum_{i=l}^r v_i$ .
2. Let  $u_i$  be the cost of the  $i$ -th cheapest stone (the cost that will be on the  $i$ -th place if we arrange all the stone costs in non-decreasing order). This time she will tell you two numbers,  $l$  and  $r$  ( $1 \leq l \leq r \leq n$ ), and you should tell her  $\sum_{i=l}^r u_i$ .

For every question you should give the correct answer, or Kuriyama Mirai will say "fuyukai desu" and then become unhappy.

### Input

The first line contains an integer  $n$  ( $1 \leq n \leq 10^5$ ). The second line contains  $n$  integers:  $v_1, v_2, \dots, v_n$  ( $1 \leq v_i \leq 10^9$ ) — costs of the stones.

The third line contains an integer  $m$  ( $1 \leq m \leq 10^5$ ) — the number of Kuriyama Mirai's questions. Then follow  $m$  lines, each line contains three integers  $type, l$  and  $r$  ( $1 \leq l \leq r \leq n$ ;  $1 \leq type \leq 2$ ), describing a question. If  $type$  equal to 1, then you should output the answer for the first question, else you should output the answer for the second one.

### Output

Print  $m$  lines. Each line must contain an integer — the answer to Kuriyama Mirai's question. Print the answers to the questions in the order of input.

### Examples

input	Copy
<pre>6 6 4 2 7 2 7 3 2 3 6 1 3 4 1 1 6</pre>	
output	Copy
<pre>24 9 28</pre>	
input	Copy
<pre>4 5 5 2 3 10 1 2 4 2 1 4 1 1 1 2 1 4</pre>	

### Codeforces Round #248 (Div. 2)

Finished

Practice



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Start virtual contest

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Clone Contest

### → Submit?

Language: GNU G++20 11.2.0 (64 bit, w

Choose file: Choose File No file chosen

Submit

### → Contest materials

- Codeforces Round #248 ✕
- Tutorial (en) ✕

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

**output**[Copy](#)

```
10
15
5
15
5
5
2
12
3
5
```

**Note**

Please note that the answers to the questions may overflow 32-bit integer type.

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