

## CSES Problem Set

## Range Updates and Sums

TASK | [SUBMIT](#) | [RESULTS](#) | [STATISTICS](#)**Time limit:** 1.00 s **Memory limit:** 512 MB

Your task is to maintain an array of  $n$  values and efficiently process the following types of queries:

1. Increase each value in range  $[a, b]$  by  $x$ .
2. Set each value in range  $[a, b]$  to  $x$ .
3. Calculate the sum of values in range  $[a, b]$ .

**Input**

The first input line has two integers  $n$  and  $q$ : the array size and the number of queries.

The next line has  $n$  values  $t_1, t_2, \dots, t_n$ : the initial contents of the array.

Finally, there are  $q$  lines describing the queries. The format of each line is one of the following: " $1\ a\ b\ x$ ", " $2\ a\ b\ x$ ", or " $3\ a\ b$ ".

**Output**

Print the answer to each sum query.

**Constraints**

- $1 \leq n, q \leq 2 \cdot 10^5$
- $1 \leq t_i, x \leq 10^6$
- $1 \leq a \leq b \leq n$

**Example**

Input:

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

**Range Queries**

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[Pizzeria Queries](#) ☒
[Subarray Sum Queries](#) ☒
[Distinct Values Queries](#) ☐
[Increasing Array Queries](#) ☐
[Forest Queries II](#) ☐
[Range Updates and Sums](#) ☐
[Polynomial Queries](#) ☐
[Range Queries and Copies](#) ☐
**Your submissions**

Output:

7  
11  
15

