CSES Problem Set

Polynomial Queries

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 the first value in range $[a,b]$ by 1, the second value by 2, the third value by 3, and so on.
2. Calculate the sum of values in range $[a,b]$.

Input

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

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

Finally, there are q lines describing the queries. The format of each line is either "1 a b" or "2 a b".

Output

Print the answer to each sum query.

Constraints

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

Example

Input:
```
5 3
4 2 3 1 7
2 1 5
1 1 5
2 1 5
```

Output:
```
17
32
```

Range Queries

...
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

2021-06-06 20:05:07 ✓
2021-06-06 19:57:27 ×
2021-06-04 16:51:33 ×
2021-06-04 16:47:26 ×
2021-05-27 00:05:50 ×
2021-05-27 00:03:50 ×
2021-05-26 23:53:36 ×
2021-05-26 20:43:18 ×
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