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:

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

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