# Problem F. Polynomial Queries

**Time limit** 1000 ms
**Mem limit** 524288 kB

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 | Output |
| --- | --- |
| 5 3<br>4 2 3 1 7<br>2 1 5<br>1 1 5<br>2 1 5 | 17<br>32 |