

D. Powerful array

time limit per test: 5 seconds
 memory limit per test: 256 megabytes
 input: standard input
 output: standard output

An array of positive integers a_1, a_2, \dots, a_n is given. Let us consider its arbitrary subarray a_l, a_{l+1}, \dots, a_r , where $1 \leq l \leq r \leq n$. For every positive integer s denote by K_s the number of occurrences of s into the subarray. We call the *power* of the subarray the sum of products $K_s \cdot K_s \cdot s$ for every positive integer s . The sum contains only finite number of nonzero summands as the number of different values in the array is indeed finite.

You should calculate the power of t given subarrays.

Input

First line contains two integers n and t ($1 \leq n, t \leq 200000$) — the array length and the number of queries correspondingly.

Second line contains n positive integers a_i ($1 \leq a_i \leq 10^6$) — the elements of the array.

Next t lines contain two positive integers l, r ($1 \leq l \leq r \leq n$) each — the indices of the left and the right ends of the corresponding subarray.

Output

Output t lines, the i -th line of the output should contain single positive integer — the power of the i -th query subarray.

Please, do not use `%lld` specifier to read or write 64-bit integers in C++. It is preferred to use `cout` stream (also you may use `%I64d`).

Examples

| input | Copy |
|----------------------------|------|
| 3 2 1 2 1 1 2 1 3 | |
| output | Copy |
| 3 6 | |

| input | Copy |
|---|------|
| 8 3 1 1 2 2 1 3 1 1 2 7 1 6 2 7 | |
| output | Copy |
| 20 20 20 | |

Note

Consider the following array (see the second sample) and its $[2, 7]$ subarray (elements of the subarray are colored):

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 2 | 2 | 1 | 3 | 1 | 1 |
|---|---|---|---|---|---|---|---|

Then $K_1 = 3$, $K_2 = 2$, $K_3 = 1$, so the power is equal to $3^2 \cdot 1 + 2^2 \cdot 2 + 1^2 \cdot 3 = 20$.

→ Attention

Package for this problem was not updated by the problem writer or Codeforces administration after we've upgraded the judging servers. To adjust the time limit constraint, solution execution time will be multiplied by 2. For example, if your solution works for 400 ms on judging servers, then value 800 ms will be displayed and used to determine the verdict.

Yandex.Algorithm 2011: Round 2

[Finished](#)
[Practice](#)


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→ Submit?

Language: [GNU G++14 6.4.0](#)

Choose file: [Choose File](#) No file chosen

Be careful: there is 50 points penalty for submission which fails the pretests or resubmission (except failure on the first test, denial of judgement or similar verdicts). "Passed pretests" submission verdict doesn't guarantee that the solution is absolutely correct and it will pass system tests.

Accepted [Submit](#)

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| Submission | Time | Verdict |
|--------------------------|-------------------|------------------------|
| 80741148 | May/20/2020 07:58 | Running on test 23 |
| 80741046 | May/20/2020 07:56 | Accepted |
| 80740971 | May/20/2020 07:54 | Wrong answer on test 1 |

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data structures

implementation

math

two pointers

*2900

No tag edit access

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