CSES Problem Set

Sliding Cost

Time limit: 1.00 s **Memory limit:** 512 MB

You are given an array of n integers. Your task is to calculate for each window of k elements, from left to right, the minimum total cost of making all elements equal.

You can increase or decrease each element with cost x where x is the difference between the new and the original value. The total cost is the sum of such costs.

Input

The first input line contains two integers n and k: the number of elements and the size of the window.

Then there are n integers $x_1, x_2, \ldots, x_n$: the contents of the array.

Output

Output $n-k+1$ values: the costs.

Constraints

- $1 \le k \le n \le 2 \cdot 10^5$
- $1 \le x_i \le 10^9$

Example

Input:
```
8 3
2 4 3 5 8 1 2 1
```

Output:
```
2 2 5 7 7 1
```

Sorting and Searching

...
Subarray Sums II -
Subarray Divisibility -
Subarray Distinct Values -
Array Division -
Sliding Median -
Sliding Cost -
Movie Festival II -
Maximum Subarray Sum II -

Your submissions