CSES Problem Set

Array Division

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

You are given an array containing n positive integers.

Your task is to divide the array into k subarrays so that the maximum sum in a subarray is as small as possible.

Input

The first input line contains two integers n and k: the size of the array and the number of subarrays in the division.

The next line contains n integers $x_1, x_2, \ldots, x_n$: the contents of the array.

Output

Print one integer: the maximum sum in a subarray in the optimal division.

Constraints

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

Example

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

Output:
```
8
```

Explanation: An optimal division is $[2,4], [7], [3,5]$ where the sums of the subarrays are $6, 7, 8$. The largest sum is the last sum 8.

Sorting and Searching

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Subarray Sums II -
Subarray Divisibility -
Subarray Distinct Values -
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Sliding Median -
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Movie Festival II -
Maximum Subarray Sum II -

Your submissions