Утегенов Батырхан Елембетұлы [ADS-Lab-03]: Submit a solution

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Submit a solution for K-K-subarray

Time limit:	1 s
Real time limit:	5 s
Memory limit:	256M

Problem K: K-subarray

You are given an array of non negative integers and a number k. Let's define subarray as a non-empty *consecutive* elements of an array. Among subarrays of the given array, find the one, such that sum of its elements is no less than k and such that this subarray would contain minimum possible number of elements.

Input format

First line contains two space separated numbers n k — number of elements in given array and number that was mentioned above, respectively $(1 \le n \le 10^5, 0 \le k \le 10^9)$.

Second line contains n space separated numbers $a_1, a_2, \ldots, a_n$ — given array $(0 \le a_i \le 10^4)$.

It is guaranteed that at least one subarray's some is not less than k.

Output format

Output single number x — minimum possible number of elements of some subarray, such that sum of elements of this subarray is not less than k.

Examples

Input

```
3 12
3 5 7
```

Output

```
2
```

Input

```
6 19
3 6 1 4 5 2
```

Output

```
5
```

Notes

In the first test case we have three elements. Subarrays are $[3]$, $[3, 5]$, $[3, 5, 7]$, $[5]$, $[5, 7]$, $[7]$. Only two subarrays have sum that is not less than $k = 1$ $[3, 5, 7]$, $[5, 7]$. Out of these two subarrays, $[5, 7]$ has minimum possible length of 2.

Hint

For a fixed left end of subarray, sums of subarray increase, if we increase number of elements in it. So we can do binary search on right end subarray for a fixed left end.

In order to quickly know sum of subarray we can calculate prefix sums. For example for the given array from the first test case prefix sums would $[3, 8, 15]$. In order to get sum of second and third element, from prefix sum at position 3 we subtract prefix sum at position 1: $15 - 3 = 12$.

Submit a solution

Language: g++ - GNU C++ 11.4.0

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Previous submissions of this problem

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5780	895:50:46	914	K	g++	OK	N/A	View	View

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