

Suffering

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

points: 100 · problem code: suffering · author: jbroeksteeg

Josh does not like research. He models the n FIT2083 classes of the semester as an array, where a_i is the number of Depression Points he gains from attending the i th class.

If the total number of Depression Points from a consecutive block of classes becomes strictly greater than k , Josh will die. Determine the smallest number of consecutive classes he can attend and die as a result. If no such block exists, output `-1`.

Input

The first line contains two integers n and k .

The second line contains n positive integers $a_1, a_2, \dots, a_n$.

Output

Print a single integer: the minimum length of a contiguous subarray whose sum is strictly greater than k . If no such subarray exists, print `-1`.

Constraints

- $1 \leq n \leq 10^5$
- $1 \leq a_i \leq 10^3$
- $1 \leq k \leq 10^9$

Example 1

Input

```
5 11
5 10 1 4 5
```

Output

```
2
```

Explanation

The shortest valid subarray is $[5, 10]$, whose sum is $15 > 11$.