Count Permutation 2

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	512 megabytes

Given an array $p_1, p_2, \cdots, p_n$ and an integer k. It is guaranteed that the array is a permutation initially ($1 \le p_i \le n$, and for each $1 \le i < j \le n$,$p_i \ne p_j$). You can do the following operation any number of times:

- Choose an integer j ($1 \le j \le n-k+1$), define $m = \max(p_j, p_{j+1}, \cdots, p_{j+k-1})$, and then let $p_i = m$ for all integers $i \in [j, j+k-1]$ simultaneously.

Find the minimum number of operations to make all the elements in the array p equal to n.

Input

The first line contains two integers n, k ($2 \le n \le 1 \times 10^5, 2 \le k \le n$), denoting the length of the array and the parameter in one operation.

The second line contains n integers $p_1, p_2, \cdots, p_n$ ($1 \le p_i \le n$), denoting the array p.

Output

A single line contains an integer m, denoting the minimum number of operations.

Example

standard input	standard output
5 3 1 5 4 2 3	2