

Problem J. Yet Another Mex Problem

Input file: *standard input*
Output file: *standard output*
Time limit: 4 seconds
Memory limit: 512 mebibytes

You are given an array a of length n and an integer k . You need to find the optimal way to divide the given array into several continuous subarrays with lengths no more than k , to maximize your profit. The profit for one subarray is the sum of its elements multiplied by the *mex* value of this subarray. Your total profit is the sum of profits for all subarrays.

We define the value of *mex* of a set of non-negative integers as the smallest non-negative integer which doesn't belong to this set. For example: $mex(0, 1, 3) = 2$.

Input

The first line contains two integers: n ($2 \leq n \leq 200\,000$), the length of the array, and k ($1 \leq k \leq n$), upper bound for the subarray length.

The second line contains n integers, the elements of the array: the i -th integer is a_i , $0 \leq a_i \leq n$.

Output

Print a single non-negative integer: the maximum possible profit that can be achieved by dividing the given array into subarrays with lengths no more than k .

Examples

standard input	standard output
5 3 3 4 0 0 3	10
8 4 0 1 2 0 3 1 4 1	26
10 5 0 2 0 1 2 1 0 2 2 1	33