

K-Distinct Windows

time limit per test: 1 second (2 seconds for Python)
memory limit per test: 500 megabytes
input: standard input
output: standard output
points: 100 · problem code: kwindowdistinct

Given an array a of n integers, count how many contiguous subarrays of length exactly x contain at least k distinct values.

Input

The first line contains three integers n , x , and k .

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

Output

Print a single integer: the number of contiguous subarrays of length exactly x that contain at least k distinct values.

Constraints

- $1 \leq k \leq x \leq n \leq 2 \cdot 10^5$
- $-10^9 \leq a_i \leq 10^9$

Example 1

Input

```
8 4 3
1 1 2 3 2 2 1 4
```

Output

```
4
```

Explanation

The five subarrays of length 4 are:

- $[1, 1, 2, 3]$, which has 3 distinct values;
- $[1, 2, 3, 2]$, which has 3 distinct values;
- $[2, 3, 2, 2]$, which has 2 distinct values;
- $[3, 2, 2, 1]$, which has 3 distinct values;
- $[2, 2, 1, 4]$, which has 3 distinct values.

So the answer is 4.