

### Suspicious Traffic Detection:

UVA ITS network monitor records server requests. Each request is represented by an integer ID of the device that sent the request. UVA ITS is interested in time intervals where the same device appears repeatedly. However, it is normal to have a certain degree of repeated requests, so a device should only be considered suspicious if it appears at least  $K$  times in the interval.

For each query  $[L, R]$ , compute:

Sum  $\binom{\text{freq}[x]}{2}$ , for all  $x$  such that  $\text{freq}[x] \geq K$

### Input

The first line contains three integers:

$N Q K$

under constraints:

$1 \leq N, Q \leq 200000$

$2 \leq K \leq N$

The second line contains  $N$  integers:

Array of  $N$  integers where  $A[i]$  is the ID of the  $i$ th request.

The next  $Q$  lines each contain two integers:

$L R$

### Output

Print  $Q$  lines, each containing the answer for a query. The  $i$ th line should contain the answer to the  $i$ th query.

### Sample Input

8 4 3

1 2 1 1 2 3 1 2

0 3

0 7

1 7

4 7

### Sample Output

3

6

3

0

### **Notes**

This problem requires an efficient solution such as Mo's Algorithm. Prefix sums and segment trees are not well-suited due to the frequency-based and conditional nature of the computation