

Contest Duration: 2019-08-17(Sat) 20:00 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20190817T2100&p1=248>) ~ 2019-08-17(Sat) 22:30 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20190817T2330&p1=248>) (local time) (150 minutes)

iso=20190817T2100&p1=248) ~ 2019-08-17(Sat) 22:30 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20190817T2330&p1=248>) (local time) (150 minutes)

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F - Counting of Subarrays

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Time Limit: 2 sec / Memory Limit: 1024 MB

Score : 1800 points

Problem Statement

For a sequence S of positive integers and positive integers k and l , S is said to belong to $level(k, l)$ when one of the following conditions is satisfied:

- The length of S is 1, and its only element is k .
- There exist sequences T_1, T_2, \dots, T_m ($m \geq l$) belonging to $level(k-1, l)$ such that the concatenation of T_1, T_2, \dots, T_m in this order coincides with S .

Note that the second condition has no effect when $k = 1$, that is, a sequence belongs to $level(1, l)$ only if the first condition is satisfied.

Given are a sequence of positive integers A_1, A_2, \dots, A_N and a positive integer L . Find the number of subsequences A_i, A_{i+1}, \dots, A_j ($1 \leq i \leq j \leq N$) that satisfy the following condition:

- There exists a positive integer K such that the sequence A_i, A_{i+1}, \dots, A_j belongs to $level(K, L)$.

Constraints

2020-09-11 (Fri)
08:44:14 +08:00

- $1 \leq N \leq 2 \times 10^5$
- $2 \leq L \leq N$
- $1 \leq A_i \leq 10^9$

Input

Input is given from Standard Input in the following format:

```
N L
A_1 A_2 ... A_N
```

Output

Print the number of subsequences A_i, A_{i+1}, \dots, A_j ($1 \leq i \leq j \leq N$) that satisfy the condition.

Sample Input 1

[Copy](#)

```
9 3
2 1 1 1 1 1 1 2 3
```

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Sample Output 1

[Copy](#)

```
22
```

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For example, both of the sequences $(1, 1, 1)$ and (2) belong to level $(2, 3)$, so the sequence $(2, 1, 1, 1, 1, 1, 1)$ belong to level $(3, 3)$.

Sample Input 2

[Copy](#)

```
9 2
2 1 1 1 1 1 1 2 3
```

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Sample Output 2

[Copy](#)

```
41
```

[Copy](#)

Sample Input 3

Copy

```
15 3
4 3 2 1 1 1 2 3 2 2 1 1 1 2 2
```

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Sample Output 3

Copy

```
31
```

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