C. Subsequences

For the given sequence with n different elements find the number of increasing subsequences with $k + 1$ elements. It is guaranteed that the answer is not greater than $8 \cdot 10^{18}$.

Input

First line contain two integer values n and k $(1 \leq n \leq 10^5, 0 \leq k \leq 10)$ — the length of sequence and the number of elements in increasing subsequences.

Next n lines contains one integer a_i $(1 \leq a_i \leq n)$ each — elements of sequence. All values a_i are different.

Output

Print one integer — the answer to the problem.

Examples

input

```
5  2
1
2
3
5
4
```

output

```
7
```