There are \( n \) stone piles. Initially, the \( i \)-th pile contains \( a_i \) stones.

Consider a set of ranges \([L_i, R_i]\). For each range, you put one stone into every pile in that range.

A range set is called *nice* if it satisfies two conditions:

- after you put all stones according to the ranges, each pile will contain \( K \) stones,
- there are no nested ranges (i.e. no \( i, j \) such that \( L_i \leq L_j \leq R_j \leq R_i \)).

How many different nice sets are there? Two sets are considered different if one of them contains a range that is not present in another one.

**Input**

The first line contains two integers \( N \) and \( K \) denoting the number of piles and the desired number of stones in each pile. The second line contains \( N \) integers \( a_i \) which are the initial pile sizes.

- \( 1 \leq N \leq 10^5 \)
- \( 1 \leq K \leq 10^9 \)
- \( 1 \leq a_i \leq 10^9 \)

**Output**

Print the number of nice sets modulo \( 10^9 + 7 \).

**Example**

**Input 1:**

```
6 3
2 1 2 3 2 2
```

**Output 1:**

```
2
```
Input 1: Nice sets in the sample are ([1, 2], [2, 3], [5, 6]) and ([1, 2], [2, 3], [5, 5], [6, 6]).