Ikortv loves order. He has natural numbers and a sequence of natural numbers .

We call an inversion a pair of indices such that and . We call a subarray a continuous sequence of elements in an array.

Ikortv does not love inversions. He wants to break the array into subarrays such that the number of inversions in each subarray is at most . Find in how many ways this can be done modulo .

**Input**

The first line of the file **inversions.in** contains the numbers and and the second line contains numbers -

**Output**

On the single line of the file **inversions.out**, print the remainder of the number of ways when divided by.

**Constraints**

**Time limit: 0.6 sec.**

**Memory limit: 256 MB.**

**Sample test**

|  |  |
| --- | --- |
| **Input (inversions.in)** | **Output (inversions.out)** |
| 4 2  4 1 2 3 | 7 |