

## 2018 ICPC Southeast USA Regional Contest

## Inversions

Consider a sequence of  $n$  integers, all of them between 1 and  $k$  (inclusive). Some of the integers are missing, and are replaced with 0s.

An *inversion* is a pair of values  $a_i$  and  $a_j$  in the sequence, where  $i < j$ , but  $a_i > a_j$ . What's the maximum number of inversions possible if the missing integers are all between 1 and  $k$  inclusive?

### Input

Each input will consist of a single test case. Note that your program may be run multiple times on different inputs.

Each test case will start with a line with two space-separated integers  $n$  ( $1 \leq n \leq 200,000$ ) and  $k$  ( $1 \leq k \leq 100$ ), where  $n$  is the length of the sequence and  $k$  is the maximum value of elements of the sequence.

Each of the next  $n$  lines will contain a single integer  $x$  ( $0 \leq x \leq k$ ). This is the sequence, in order, with 0s representing the missing values.

### Output

Output a single integer, which is the maximum number of inversions possible.

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Sample Input

Sample Output

6 9 0 8 4 3 0 0	15
10 9 5 2 9 0 7 4 8 7 0 0	28
10 9 7 4 0 0 8 5 0 0 3 1	36

In the first example, if you replace the 0s like this:

**9 8 4 3 2 1**

Then every pair of numbers in the sequence is an *inversion*, for a total of 15.