K and L are once again competing against each other. This time they’re doing it with an array.

K has found an array with N numbers: a1,a2,…,aN, and L has chosen a number M. Now K has to choose a subarray of numbers from the array (a subarray is a set of sequential elements). If the “bitwise AND” of all the numbers in the subarray is **bigger than or** **equal** to M, K will win.

L gives you N,M and the array and is wondering what his chances of winning are. That’s why he asks you to write a program, which finds the number of subarrays, for which the bitwise AND of all the numbers is **bigger than or equal** to M.

**Input**

The first line of the file **note2.in** contains N and M – the size of the array and the number. The second line contains N numbers a1,a2,…,aN , the array they are using.

**Output**

On the only line of the file **note2.out** print 1 number: the desired number of subarrays.

**Constraints**

$$1\leq N\leq 10^{6}$$

$$1\leq M, a\_{i}<2^{60}$$

**Time Limit: 0.7 sec.**

**Memory Limit: 256 MB.**

**Sample Test**

|  |  |
| --- | --- |
| **Input (note2.in)** | **Output (note2.out)** |
| 5 47 8 4 5 3  | 5 |