Note2

2024/2025 SEASON – SECOND ROUND

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: $a_1,a_2,\ldots,a_N$, 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 $a_1,a_2,\ldots,a_N$, 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 4 7 8 4 5 3	5