E2. Median on Segments (General Case Edition)

time limit per test
3 seconds
memory limit per test
256 megabytes
input
standard input
output
standard output

You are given an integer sequence $a_1,a_2,\ldots,a_n$.

Find the number of pairs of indices (l,r) $(1 \le l \le r \le n)$ such that the value of median of $a_l,a_{l+1},\ldots,a_r$ is exactly the given number m.

The median of a sequence is the value of an element which is in the middle of the sequence after sorting it in non-decreasing order. If the length of the sequence is even, the left of two middle elements is used.

For example, if $a=[4,2,7,5]$ then its median is 4 since after sorting the sequence, it will look like $[2,4,5,7]$ and the left of two middle elements is equal to 4. The median of $[7,1,2,9,6]$ equals 6 since after sorting, the value 6 will be in the middle of the sequence.

Write a program to find the number of pairs of indices (l,r) $(1 \le l \le r \le n)$ such that the value of median of $a_l,a_{l+1},\ldots,a_r$ is exactly the given number m.

Input

The first line contains integers n and m $(1 \le n,m \le 2 \cdot 10^5)$ — the length of the given sequence and the required value of the median.

The second line contains an integer sequence $a_1,a_2,\ldots,a_n$ $(1 \le a_i \le 2 \cdot 10^5)$.

Output

Print the required number.

Examples

input

Copy

```
5 4
1 4 5 60 4
```

output

Copy

```
8
```

input

Copy

```
3 1
1 1 1
```

output

Copy

```
6
```

input

Copy

```
15 2
1 2 3 1 2 3 1 2 3 1 2 3 1 2 3
```

output

Copy

```
97
```

Note

In the first example, the suitable pairs of indices are: (1,3), (1,4), (1,5), (2,2), (2,3), (2,5), (4,5)and (5,5).