

# IOITC 2019

## Practice Test 3

### Subarray Median

You have an array  $A$ , which is a permutation of integers from 1 to  $N$ .

A subarray of  $A$  is an array obtained by removing some (possibly none) numbers from the beginning of  $A$ , and then from the end of  $A$ .

You only like subarrays which are odd in length. Also, you only like a subarray if it has a median equal to exactly  $B$ .

You would like to know how many subarrays of  $A$  you like.

### Input

- The first line contains two integers,  $N$  ( $1 \leq N \leq 10^5$ ) and  $B$  ( $1 \leq B \leq N$ ).
- The second line contains  $N$  integers separated by spaces, the elements of sequence  $A$ .

### Output

Output the number of odd length subsequences of  $A$  whose median is  $B$ .

### Constraints

- $1 \leq K \leq N \leq 100000$
- $1 \leq A_i \leq N$  for each  $i$  between 1 and  $N$

### Sample Input 1

```
5 4
1 2 3 4 5
```

### Sample Output 1

```
2
```

### Explanation

In the first sample, the two odd-length subarrays which have median 4 are  $\{3, 4, 5\}$  and  $\{4\}$ . You can check that there are no more.

### Sample Input 2

```
6 3
1 2 4 5 6 3
```

### Sample Output 2

```
1
```

**Sample Input 3**

7 4  
5 7 2 4 3 1 6

**Sample Output 3**

4