



# Variation

Problem Code: **ZCO15002**

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## Zonal Computing Olympiad 2015, 29 Nov 2014

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We say that two integers  $x$  and  $y$  have a variation of at least  $K$ , if  $|x - y| \geq K$  (the absolute value of their difference is at least  $K$ ). Given a sequence of  $N$  integers  $a_1, a_2, \dots, a_N$  and  $K$ , the total variation count is the number of pairs of elements in the sequence with variation at least  $K$ , i.e. it is the size of the set of pairs

$$\{(i, j) | 1 \leq i < j \leq N \text{ and } |a_i - a_j| \geq K\}$$

For example if  $K = 1$  and the sequence is 3,2,4 the answer is 3. If  $K = 1$  and the sequence is 3, 1, 3 then the answer is 2.

Your task is to write a program that takes a sequence and the value  $K$  as input and computes the total variation count.

### Input format

The first line contains two positive integers  $N$  and  $K$ , separated by a space.

This is followed by a line containing  $N$  integers separated by space giving the values of the sequence.

### Output format

A single integer in a single line giving the total variation count.

### Test data

You may assume that all integers in the input are in the range 0 to  $10^8$  inclusive.

**Subtask 1 (40 marks)** :  $1 \leq N \leq 4000, 1 \leq K \leq 10^8$

**Subtask 2 (60 marks)** :  $1 \leq N \leq 65000, 1 \leq K \leq 10^8$

### Sample Input

3 1  
3 1 3

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## Sample Output

2

Author: [admin3 \(/users/admin3\)](#)  
Date Added: 3-11-2015  
Time Limit: 1 secs  
Source Limit: 50000 Bytes  
Languages: C, C99 strict, CPP 4.3.2, CPP 6.3, CPP14, JAVA, PYTH, PYTH 3.5

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CodeChef was created as a platform to help programmers make it big in the world of algorithms, **computer programming** and **programming contests**. At CodeChef we work hard to revive the geek in you by hosting a **programming contest** at the start of the month and another smaller programming challenge in the middle of the month. We also aim to have training sessions and discussions related to **algorithms**, **binary search**, technicalities like **array size** and the likes. Apart from providing a platform for **programming competitions**, CodeChef also has various algorithm tutorials and forum discussions to help those who are new to the world of **computer programming**.

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Try your hand at one of our many practice problems and submit your solution in a language of your choice. Our **programming contest** judge accepts solutions in over 35+ programming languages. Preparing for coding contests were never this much fun! Receive points, and move up through the CodeChef ranks. Use our practice section to better prepare yourself for the multiple **programming challenges** that take place through-out the month on CodeChef.

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[Contest Hosting \(http://www.codechef.com/hostyourcontest\)](#)  
[Problem Setting \(http://www.codechef.com/problemsetting\)](#)  
[CodeChef Tutorials \(http://www.codechef.com/wiki/tutorials\)](#)  
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