

Problem

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Topics

Given an array of integers and a target value, determine the number of pairs of array elements that have a difference equal to the target value.

Example

$k = 1$

$arr = [1, 2, 3, 4]$

There are three values that differ by $k = 1$: $2 - 1 = 1$, $3 - 2 = 1$, and $4 - 3 = 1$. Return 3.

Function Description

Complete the pairs function below.

pairs has the following parameter(s):

- int k: an integer, the target difference
- int arr[n]: an array of integers

Returns

- int: the number of pairs that satisfy the criterion

Input Format

The first line contains two space-separated integers n and k , the size of arr and the target value.

The second line contains n space-separated integers of the array arr .

Constraints

- $2 \leq n \leq 10^5$
- $0 < k < 10^9$
- $0 < arr[i] < 2^{31} - 1$
- each integer $arr[i]$ will be unique

Sample Input

STDIN	Function
-----	-----
5 2	arr[] size n = 5, k =2
1 5 3 4 2	arr = [1, 5, 3, 4, 2]

Sample Output

3

Explanation

There are 3 pairs of integers in the set with a difference of 2: [5,3], [4,2] and [3,1].

Change Theme

Language Java 8



```
1 import java.io.*;
2 import java.math.*;
3 import java.security.*;
4 import java.text.*;
5 import java.util.*;
6 import java.util.concurrent.*;
7 import java.util.function.*;
8 import java.util.regex.*;
9 import java.util.stream.*;
10 import static java.util.stream.Collectors.joining;
11 import static java.util.stream.Collectors.toList;
12
13 class Result {
14
15     /*
16      * Complete the 'pairs' function below.
17      *
18      * The function is expected to return an INTEGER.
19      * The function accepts following parameters:
20      *   1. int k: an integer, the target difference
21      *   2. int arr[n]: an array of integers
22      */
23
24     int pairs(int k, int arr[]) {
25         // Write your code here
26     }
27 }
```

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Test against custom input