7 Questions | Total Marks: 125.0

7 Programming Questions

Question 2

GANDALF'S TRIPLETS

Aeons before he was recognized as of the greatest wizards - an ageless master of the arcane arts, Gandalf the white, endured schola ancient wizard's academy. While knowing what and how to use magic was important, so was mathematics for a young budding wiza stumbled upon arithmetic progressions. Gandalf's Master asked him an interesting question which if answered correctly would allow For a given sequence of **N** whole numbers (A_1, A_2, ..., A_N), he has to find three numbers A_i, A_j, A_k **(i < j < k)** such that they are in an $A_j - A_i = A_k - A_j$

Gandalf quickly found three such numbers. Impressed by his wit, the Master asked him the follow up question: How many such trip

Input

First Line: N

Next Line: N space-separated integers A_1, A_2, ..., A_N

Read the inputs from STDIN

Output

Number of ways of choosing triplets with the above-mentioned arithmetic property. Your answer should be printed on STDOUT

Constraints

$3 \le N \le 100000$

$1 <= A_1, A_2, ..., A_N <= 50000$

Sample Input

```
10
6 9 6 5 4 5 8 1 7 8
```

Sample Output

```
7
```

For the given sequence, at most the following 7 triplets can be found:

(i, j, k)	(A_i, A_j, A_k)
1, 4, 5	6, 5, 4
1, 9, 10	6, 7, 8
2, 4, 8	9, 5, 1
2, 6, 8	9, 5, 1
2, 7, 9	9, 8, 7
3, 4, 5	6, 5, 4
3, 9, 10	6, 7, 8

Note: Your code should be able to convert the sample input into the sample output. However, this is not enough to pass the challenge, because the code will be run on multip statement.

Time Limit: 5.0 sec(s) for each input file

Memory Limit: 256 MB

Source Limit: 1024 KB

Marking Scheme: Marks are awarded if any testcase passes

New Submission | All S

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Submission ID: 36274915	Result	Marks	Time (sec)	Memory (KiB)
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