CS23331-Design and Analysis of Algorithms-2023 Batch-CS

Quiz navigation

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Finish review

Status	Finished
Started	Tuesday, 22 April 2025, 3:38 PM
Completed	Tuesday, 22 April 2025, 3:49 PM
Duration	11 mins 12 secs
Marks	1.00/1.00
Grade	**4.00** out of 4.00 (**100**%)

Question 1

Correct

Mark 1.00 out of 1.00

⚑ Flag question

Given an array A of sorted integers and another non negative integer k, find if there exists 2 indices i and j such that A[j] - A[i] = k, i != j.

Input Format:

First Line n - Number of elements in an array

Next n Lines - N elements in the array

k - Non - Negative Integer

Output Format:

1 - If pair exists

0 - If no pair exists

Explanation for the given Sample Testcase:

YES as 5 - 1 = 4

So Return 1.

For example:

Input	Result
3 1 3 5 4	1

Answer: (penalty regime: 0 %)

```c
#include <stdio.h>
int main() {
    int n, k, flag = 0;
    scanf("%d", &n);
    int arr[n];
    for (int i = 0; i < n; i++) {
        scanf("%d", &arr[i]);
    }
    scanf("%d", &k);
    int i = 0, j = 1;
    while (j < n) {
        if (arr[j] - arr[i] == k) {
            if (i == j)
                j++;
            else {
                flag = 1;
                break;
            }
        }
        else if (arr[j] - arr[i] < k) {
            j++;
        }
        else {
            i++;
            if (i == j)
                j++;
        }
    }
    printf("%d", flag);
    return 0;
}
```

	Input	Expected	Got	
	3 1 3 5 4	1	1	✓
	10 1 4 6 8 12 14 15 20 21 25 1	1	1	✓
	10 1 2 3 5 11 14 16 24 28 29 0	0	0	✓
	10 0 2 3 7 13 14 15 20 24 25 10	1	1	✓

Passed all tests!

Correct

Marks for this submission: 1.00/1.00.

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