



Dashboard

My courses




CS23331-DAA-2024-CSE / 6-Pair with Difference -O(n) Time Complexity,O(1) Space Complexity



6-Pair with Difference -O(n) Time Complexity,O(1) Space Complexity

Started on	Wednesday, 8 October 2025, 9:37 AM
State	Finished
Completed on	Wednesday, 8 October 2025, 9:38 AM
Time taken	1 min 3 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 $A[j] - A[i] = k$, $i \neq j$.

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

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 %)

```
1 #include <stdio.h>
2
3 int main() {
4     int n, k;
5     scanf("%d", &n);
6
7     int A[n];
8     for (int i = 0; i < n; i++)
9         scanf("%d", &A[i]);
10
11     scanf("%d", &k);
12
13     int i = 0, j = 1;
14
15     while (i < n && j < n) {
16         if (i != j && A[j] - A[i] == k) {
17             printf("1\n");
18             return 0;
19         } else if (A[j] - A[i] < k) {
20             j++;
21         } else {
22             i++;
23             if (i == j) j++; // Ensure i != j
24         }
25     }
26 }
```

```
27     printf("0\n");
28     return 0;
29 }
```

	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.

[Finish review](#)

[Back to Course](#)

