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Started on	Tuesday, 5 November 2024, 2:35 PM
State	Finished
Completed on	Tuesday, 5 November 2024, 2:47 PM
Time taken	11 mins 51 secs
Marks	1.00/1.00
Grade	4.00 out of 4.00 (100%)

Question 1

Correct

Mark 1.00 out of 1.00

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

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  int findPair(int arr[], int n, int k) {
3      int i = 0, j = 1;
4      while (i < n && j < n) {
5          int diff = arr[j] - arr[i];
6          if (diff == k && i != j) {
7              return 1;
8          } else if (diff < k) {
9              j++;
10         } else {
11             i++;
12         }
13     }
14     return 0;
15 }
16 int main() {
17     int n, k;
18     scanf("%d", &n);
19     int arr[n];
20     for (int i = 0; i < n; i++) {
21         scanf("%d", &arr[i]);
22     }
23     scanf("%d", &k);
24     int result = findPair(arr, n, k);
25     printf("%d\n", result);
26     return 0;
27 }
```

	Input	Expected	Got	
✓	3 1 3 5 4	1	1	✓

	Input	Expected	Got	
✓	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.

◀ 5-Pair with Difference-O(n^2)Time Complexity,O(1) Space Complexity

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