

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

Started on	Sunday, 19 October 2025, 8:27 PM
State	Finished
Completed on	Sunday, 19 October 2025, 8:33 PM
Time taken	5 mins 25 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

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 main(){
3     int n;
4     scanf("%d",&n);
5     int a[n];
6     for(int i=0;i<n;i++){
7         scanf("%d",&a[i]);
8     }
9     int k;
10    scanf("%d",&k);
11    int i=0,j=1;
12    int f=0;
13    while(i<n && j<n){
14        if(i==j){
15            j++;
16        }
17        else{
18            int d=a[j]-a[i];
19            if(d==k){
20                f=1;
21                break;
22            }else if(d<k){
23                j++;
24            }
25            else{
26                i++;
27            }
28        }
29    }
30    printf("%d\n",f);
31 }
```

	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

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