



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

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Quiz navigation



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```
Started on Tuesday, 5 November 2024, 2:22 PM

State Finished Tuesday, 5 November 2024, 2:49 PM

Time taken 27 mins 27 mins

Marks 1.00/1.00

Grade 4.00 out of 4.00 (100%)
```

Question 1

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.

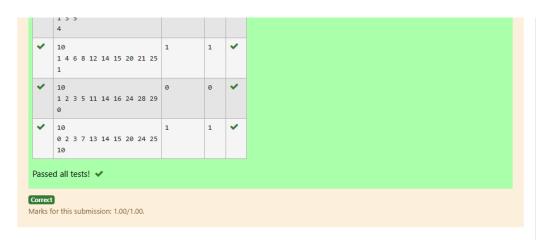
For example:

Input	Result
3	1
1 3 5	
4	
	3

Answer: (penalty regime: 0 %)

```
#include<stdio.h>
     int has(int arr[],int n,int k){
         int i=0, j=1;
         while(j<n){
              int diff=arr[j]-arr[i];
 6
             if(diff==k && i!=j){
                  return 1;
8
              else if(diff<k){
10
                  j++;
11
              else{
13
14
              if(i==j){
15
16
17
18
19
         return 0;
20
21,
     int main(){
         int n,k;
scanf("%d",&n);
22
23
         int arr[n];
for(int i=0;i<n;i++){</pre>
24
26
              scanf("%d",&arr[i]);
27
         scanf("%d",&k);
28
         int result=has(arr,n,k);
printf("%d",result);
29
30
31
32
     }
33
```

Г		Input	Expected	Got	
•	~	3	1	1	~



Finish review

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

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