

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

Quiz navigation

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Status	Finished
Started	Friday, 21 March 2025, 8:17 AM
Completed	Friday, 21 March 2025, 8:35 AM
Duration	18 mins 51 secs
Marks	1.00/1.00
Grade	10.00 out of 10.00 (100%)

Question 1

Correct

Mark 1.00 out of 1.00

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**Problem Statement:**  
Given a sorted array of integers say arr[] and a number x. Write a recursive program using divide and conquer strategy to check if there exist two elements in the array whose sum = x. If there exist such two elements then return the numbers, otherwise print as "No".  
Note: Write a Divide and Conquer Solution

**Input Format**  
First Line Contains Integer n – Size of array  
Next n lines Contains n numbers – Elements of an array  
Last Line Contains Integer x – Sum Value

**Output Format**  
First Line Contains Integer – Element1  
Second Line Contains Integer – Element2 (Element 1 and Elements 2 together sums to value "x")

Answer: (penalty regime: 0 %)

```
1 #include<stdio.h>
2 int bin(int arr[],int low,int high,int x)
3 {
4     if(low>high)
5         return -1;
6     int mid=(low+high)/2;
7     if(arr[mid]==x)
8     {
9         return mid;
10    }
11    else if(arr[mid]>x)
12    {
13        return bin(arr,low,mid-1,x);
14    }
15    else{
16        return bin(arr,mid+1,high,x);
17    }
18 }
19 void twosum(int arr[],int n,int x)
20 {
21     for(int i=0;i<n;i++)
22     {
23         int com=x-arr[i];
24         if(bin(arr,i+1,n-1,com)!=-1)
25         {
26             printf("%d\n%d",arr[i],com);
27             return;
28         }
29     }
30     printf("No");
31 }
32 int main()
33 {
34     int n;
35     scanf("%d",&n);
36     int arr[n];
37     for(int i=0;i<n;i++)
38     {
39         scanf("%d",&arr[i]);
40     }
41     int x;
42     scanf("%d",&x);
43     twosum(arr,n,x);
44     return 0;
45 }
```

	Input	Expected	Got
4	4	4	4
2	10	10	10
4			
8			
10			
14			
5	No	No	
2			
4			
6			
8			
10			
100			

Passed all tests!

Correct  
Marks for this submission: 1.00/1.00.

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