

# Triplets\_Testing.java

```
1 package Test;
2 import java.io.*;
3 import java.math.*;
4 import java.security.*;
5 import java.text.*;
6 import java.util.*;
7 import java.util.concurrent.*;
8 import java.util.regex.*;
9 public class Triplets_Testing {
10
11     public static int printTriplet(int[] arr, int sum) {
12
13         int flag=0;//dummy variable.
14
15         //Arrays are sorted in ascending order
16         Arrays.sort(arr);
17
18         //hashing is used which is reducing the complexity of the program
19         Set<Integer> hashSet = new HashSet<>();
20
21
22         //length of the array
23         int n = arr.length;
24
25         //loop to insert all the values in the hashSet(hashed array)
26         for(int i = 0; i < n; i++) {
27             hashSet.add(arr[i]);
28         }
29
30         //initializing the variable
31         int left = 0, right = n-1, reqSum = 0;
32
33
34         while(left < right)
35         {
36
37             //Here the total sum is subtracted from the first and the last index and then this
38             reqSum is //then checked if this left sum is present anywhere in thea array and if present
39             then we got the third value //else it will keep traversing the loop.
40             reqSum = sum - (arr[left]+arr[right]);
41
42             //checking the basic conditions
43             if(hashSet.contains(reqSum)
44                 && (reqSum != arr[left]
45                     && reqSum != arr[right]
46                     && arr[left]!=0
47                     && arr[right]!=0
48                     && reqSum!=0))
49             {
50
51                 //if it satisfies all the condition then we print all the three values and get
52                 out of the loop.
53                 System.out.println("The three numbers are found");
54                 System.out.println(arr[left] + " " + arr[right] + " " + reqSum);
55                 flag=1;
56             }
57         }
58     }
59 }
```

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55         return 1;
56     }
57
58     if(arr[left]+arr[right] < sum)
59     {
60         left++;
61     }
62
63     else
64     {
65         right--;
66     }
67     }//while loop closed
68
69     if(flag==0)
70     {
71         System.out.println("Sorry there are no 3 values available");
72
73         //here 0 is returned showing the sum is not found
74         return 0;
75     }
76     //here 1 is returned showing the sum is found
77     return 1;
78
79
80
81 }//method ends here
82
83 // private static final Scanner scanner = new Scanner(System.in);
84
85 public static void main(String[] args) throws IOException {
86
87     //Scanner class to take the input.
88
89     Scanner sc= new Scanner(System.in);
90
91     //the array is initialized with the range 50.
92
93     int ar[] =new int[50];
94
95     //Number of inputs
96     System.out.println("Enter the number of terms");
97     int n =sc.nextInt();
98
99     System.out.println("Enter the values");
100     for(int i=0;i<n;i++)
101     {
102         int value = sc.nextInt();
103         ar[i] = value;
104     }
105     int sum;
106
107     //total sum required
108     System.out.println("Enter the Sum required");
109     sum = sc.nextInt();
110     System.out.println(printTriplet(ar,sum));
111

```

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```
112     }
113 }
114
115 //*****OUTPUTS *****\\
116 /*
117 *
118 Enter the number of terms
119 5
120 Enter the values
121 10 13 23 50 11
122 Enter the Sum required
123 73
124 The three numbers are found
125 10 50 13
126 1
127
128
129 Enter the number of terms
130 6
131 Enter the values
132 11 13 24 10 16 13
133 Enter the Sum required
134 38
135 Sorry there are no 3 values available
136 */
137
```