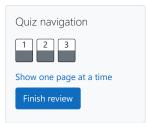
# GE23131-Programming Using C-2024



Status Finished

Started Tuesday, 14 January 2025, 4:06 PM

Completed Tuesday, 14 January 2025, 4:20 PM

Duration 13 mins 15 secs

Question **1**Correct

Flag question

Given an array of numbers, find the index of the smallest array element (the pivot), for which the sums of all elements to the left and to the right are equal. The array may not be reordered.

#### Example

#### arr=[1,2,3,4,6]

- the sum of the first three elements, 1+2+3=6. The value of the last element is 6.
- · Using zero based indexing, arr[3]=4 is the pivot between the two subarrays.
- · The index of the pivot is 3.

## Function Description

Complete the function balancedSum in the editor below.

balancedSum has the following parameter(s):

int arr[n]: an array of integers

#### Returns

int: an integer representing the index of the pivot

#### Constraints

- $\cdot$  3  $\leq$  n  $\leq$  10<sup>5</sup>
- $\cdot$  1  $\leq$  arr[i]  $\leq$  2  $\times$  10<sup>4</sup>, where 0  $\leq$  i < n
- · It is guaranteed that a solution always exists.

# Input Format for Custom Testing

Input from stdin will be processed as follows and passed to the function.

The first line contains an integer n, the size of the array arr.

Each of the next n lines contains an integer, arr[i], where  $0 \le i < n$ .

# Sample Case 0

Sample Input 0

# STDIN Function Parameters

4 → arr[] size n = 4

1  $\rightarrow$  arr = [1, 2, 3, 3]

.

2

3

3

## Sample Output 0

2

#### Explanation 0

- The sum of the first two elements, 1+2=3. The value of the last element is 3.
- · Using zero based indexing, arr[2]=3 is the pivot between the two subarrays.

The index of the pivot is 2.

Sample Case 1

Sample Input 1

```
STDIN Function Parameters
```

```
3 \rightarrow \operatorname{arr}[] \operatorname{size} n = 3
1 \rightarrow \operatorname{arr} = [1, 2, 1]
```

2

Sample Output 1

1

#### Explanation 1

- · The first and last elements are equal to 1.
- · Using zero based indexing, arr[1]=2 is the pivot between the two subarrays.
- · The index of the pivot is 1.

Answer: (penalty regime: 0 %)

```
Reset answer
```

```
* Complete the 'balancedSum' function below.
 2
3
      * The function is expected to return an INTEGER.
* The function accepts INTEGER_ARRAY arr as parameter.
4
5
     int balancedSum(int arr_count, int* arr)
 8
9 .
10
         int total sum=0;
11
         int left_sum=0;
12
         for(int i=0;i<arr_count;i++)</pre>
13
14
             total_sum+=arr[i];
15
         for(int i=0;i<arr_count;i++)</pre>
16
17
             if(left_sum==(total_sum-left_sum-arr[i]))
19
             return i;
             left_sum+=arr[i];
20
21
22
         return 1;
23
24
25
```

Passed all tests! ✓

Question **2**Correct

Flag question

Calculate the sum of an array of integers.

Example

```
numbers = [3, 13, 4, 11, 9]
```

The sum is 3 + 13 + 4 + 11 + 9 = 40.

Function Description

Complete the function arraySum in the editor below.

 $array Sum\ has\ the\ following\ parameter (s):$ 

int numbers[n]: an array of integers

```
Returns
int: integer sum of the numbers array
Constraints
1 \le n \le 10^4
1 \le numbers[i] \le 10^4
Input Format for Custom Testing
Input from stdin will be processed as follows and passed to the function.
The first line contains an integer n, the size of the array numbers.
Each of the next n lines contains an integer numbers[i] where 0 \le i < n.
Sample Case 0
Sample Input 0
STDIN Function
-----
5 \rightarrow numbers[] size n = 5
1 \rightarrow \text{numbers} = [1, 2, 3, 4, 5]
2
3
4
5
Sample Output 0
15
Explanation 0
1 + 2 + 3 + 4 + 5 = 15.
Sample Case 1
Sample Input 1
STDIN Function
2 \rightarrow numbers[] size n = 2
12 → numbers = [12, 12]
Sample Output 1
Explanation 1
12 + 12 = 24.
Answer: (penalty regime: 0 %)
  Reset answer
         * Complete the 'arraySum' function below.
    2
    3
         * The function is expected to return an INTEGER.
* The function accepts INTEGER_ARRAY numbers as parameter.
   4
5
    6
    8
        int arraySum(int numbers_count, int *numbers)
    9
   10
             int sum=0;
```

for(int i=0;i<numbers\_count;i++)</pre>

sum+=numbers[i];

return sum;

11 12 13

15



	Test	Expected	Got	
~	<pre>int arr[] = {1,2,3,4,5}; printf("%d", arraySum(5, arr))</pre>	15	15	~

Passed all tests! <

Question **3**Correct

▼ Flag question

Answer: (penalty regime: 0 %)

```
Reset answer
```

```
Complete the 'minDiff' function below.
2
4
     \ ^{*} The function is expected to return an INTEGER.
5
     * The function accepts INTEGER_ARRAY arr as parameter.
6
     int abs(int x)
8
        return x<0?-x:x;
10
11
      void bubblesort(int arr[],int n)
12
          for(int i=0;i<n-1;i++)</pre>
13
14
              for(int j=0;j<n-i-1;j++)</pre>
16
17
                  if(arr[j]>arr[j+1])
18
19
                      int temp=arr[i];
                      arr[j]=arr[j+1];
20
21
                      arr[j+1]=temp;
22
23
             }
24
         }
25
     }
26
27
    int minDiff(int arr_count, int* arr)
28
29
        bubblesort(arr,arr_count);
30
        int sum=0:
        for(int i=1;i<arr_count;i++)</pre>
31
32
33
            sum+=abs(arr[i]-arr[i-1]);
34
35
        return sum;
36
37
```

```
Test Expected Got

vint arr[] = {5, 1, 3, 7, 3};
printf("%d", minDiff(5, arr)) 6
```

Passed all tests! ✓

Finish raviaw