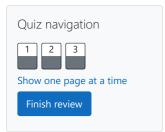
GE23131-Programming Using C-2024



Status Finished
Started Monday, 13 January 2025, 8:41 AM
Completed Monday, 13 January 2025, 8:51 AM
Duration 9 mins 56 secs

Question 1
Correct

Flag
question

Given an array of numbers, find the index of the smallest array element (the pivot), for which 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

- $\cdot \qquad 3 \le n \le 10^5$
- · $1 \le arr[i] \le 2 \times 10^4$, where $0 \le i < n$
- · 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

Sample Output 0

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

 $3 \rightarrow arr[] size n = 3$

 \rightarrow arr = [1, 2, 1]

2

1

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

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

Question $\bf 2$

Calculate the sum of an array of integers.

Example

Correct □ Flag question

REC-CIS

```
The sum is 3 + 13 + 4 + 11 + 9 = 40.
Function Description
Complete the function arraySum in the editor below.
arraySum 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
   → numbers[] size n = 5
   \rightarrow 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 \rightarrow \text{numbers} = [12, 12]
12
Sample Output 1
24
```

Answer: (penalty regime: 0 %)

Reset answer

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

Given an array of n integers, rearrange them so that the sum of the absolute differences of al minimized. Then, compute the sum of those absolute differences. Example n=5 arr =[1,3,3] as arr' =[1,2,3,3,4], the absolute differences are |1-2|=1, |2-3|=1, |3-3|=0, |3-4|=1. differences is 1+1+0+1=3. Function Description Complete the function minDiff in the ec following parameter: arr: an integer array Returns: int: the sum of the absolute differences of Constraints $2 \le n \le 105$ $0 \le arr[i] \le 109$, where $0 \le i < n$ Input Format For Custom Testing The an integer, n, the size of arr. Each of the following n lines contains an integer that describes a Sample Case 0 Sample Input For Custom Testing STDIN Function ----- $5 \to arr[i]$ size n 1.3.7.3 Sample Output 6 Explanation n=5 arr =[5,1,3,7,3] If arr is rearranged as arr' =[1,3] minimized. The final answer is |1-3|+|3-3|+|3-5|+|5-7|=6. Sample Case 1 Sample Inp STDIN Function ----- $2 \to arr[i]$ size $n=2.3 \to arr[i]=[3,2]$ 2 Sample Output 1 Explana is no need to rearrange because there are only two elements. The final answer is |3-2|=1.

Answer: (penalty regime: 0 %)

Reset answer

Test	Expected	Got
<pre>int arr[] = {5, 1, 3, 7, 3}; printf("%d", minDiff(5, arr))</pre>	6	6

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Save the state of the flags