# Week 13

#### Question 1:

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.

### Input Format:

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  $0 \le i < n$ .

## Program:

Attempt 1				
Status	Finished			
Started	Monday, 13 January 2025, 8:54 PM			
Completed	Monday, 13 January 2025, 9:16 PM			
Duration	22 mins 27 secs			

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```
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  1 v
  2
        Complete the 'balancedSum' function below.
  3
  4
      * The function is expected to return an INTE
  5
      * The function accepts INTEGER_ARRAY arr as
  6
  7
  8
     int balancedSum(int arr_count, int* arr)
  9 *
 10
     int l=0, r=0;
 11 *
     for(int i=0;i<arr_count;i++){</pre>
 12
          r+=arr[i];
 13
 14 v
     for(int i=0;i<arr_count;i++){</pre>
 15 ₹
          if(l==r-arr[i]){
              return i;
 16
 17
 18
          l+=arr[i];
 19
          r-=arr[i];
 20
 21
     return 1;
 22
```

## Output:

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

Question 2:

Calculate the sum of an array of integers.

Input Format:

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  $0 \le i < n$ .

Attempt 1	
Status	Finished
Started	Monday, 13 January 2025, 8:54 PM
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Duration	22 mins 27 secs

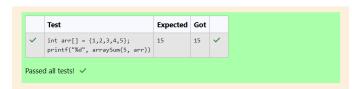
Program:

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```
THE TRANSPORT OF THE PROPERTY 
      Reset answer
                      1 ▽
                                                                 Complete the 'arraySum' function below.
                     2
                     3
                                                              The function is expected to return an INTE
                     4
                                                    * The function accepts INTEGER_ARRAY numbers
                     5
                     6
                                                    */
                     7
                     8
                                           int arraySum(int numbers_count, int *numbers)
                    9 *
                                          {
                                                                          int s=0;
              10
                                                                          for(int i=0;i<numbers_count;i++){</pre>
              11 🔻
              12
                                                                                                          s+=numbers[i];
              13
              14
                                                                          return s;
              15
              16
```

#### Output:



#### Question 3:

Given an array of n integers, rearrange them so that the sum of the absolute differences of all adjacent elements is minimized. Then, compute the sum of those absolute differences. Example n = 5 arr = [1, 3, 3, 2, 4] If the list is rearranged as arr' = [1, 2, 3, 3, 4], the absolute differences are |1 - 2| = 1, |2 - 3| = 1, |3 - 3| = 0, |3 - 4| = 1. The sum of those differences is 1 + 1 + 0 + 1 = 3.

## Input Format:

The first line of input contains an integer, n, the size of arr. Each of the following n lines contains an integer that describes arr[i] (where  $0 \le i < n$ ).

### Program:

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Duration	22 mins 27 secs

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```
Complete the 'minDiff' function below.
 2
 3
 4
     * The function is expected to return an INTE
 5
     * The function accepts INTEGER_ARRAY arr as
     */
 6
 7
 8
    int minDiff(int arr_count, int* arr)
 9,
10 *
         for(int i=0;i<arr_count;i++){</pre>
11 v
             for(int j=i;j<arr_count;j++){</pre>
                  if(i!=j){
12 v
                      if(arr[i]>arr[j]){
13 *
                           int temp=arr[j];
14
15
                          arr[j]=arr[i];
                          arr[i]=temp;
16
17
18
19
20
21
         int m=0;
         for(int i=0;i<arr_count-1;i++){</pre>
22 *
             m+=arr[i+1]-arr[i];
23
24
25
         return m;
26
```

#### Output:

