Week 13:

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

- $3 \le n \le 10^5$
- $1 \le arr[i] \le 2 \times 10^4$, 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
----- ----------
4 → arr[] size n = 4
1 → 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 → arr[] size n = 3

1 → arr = [1, 2, 1]

2

1

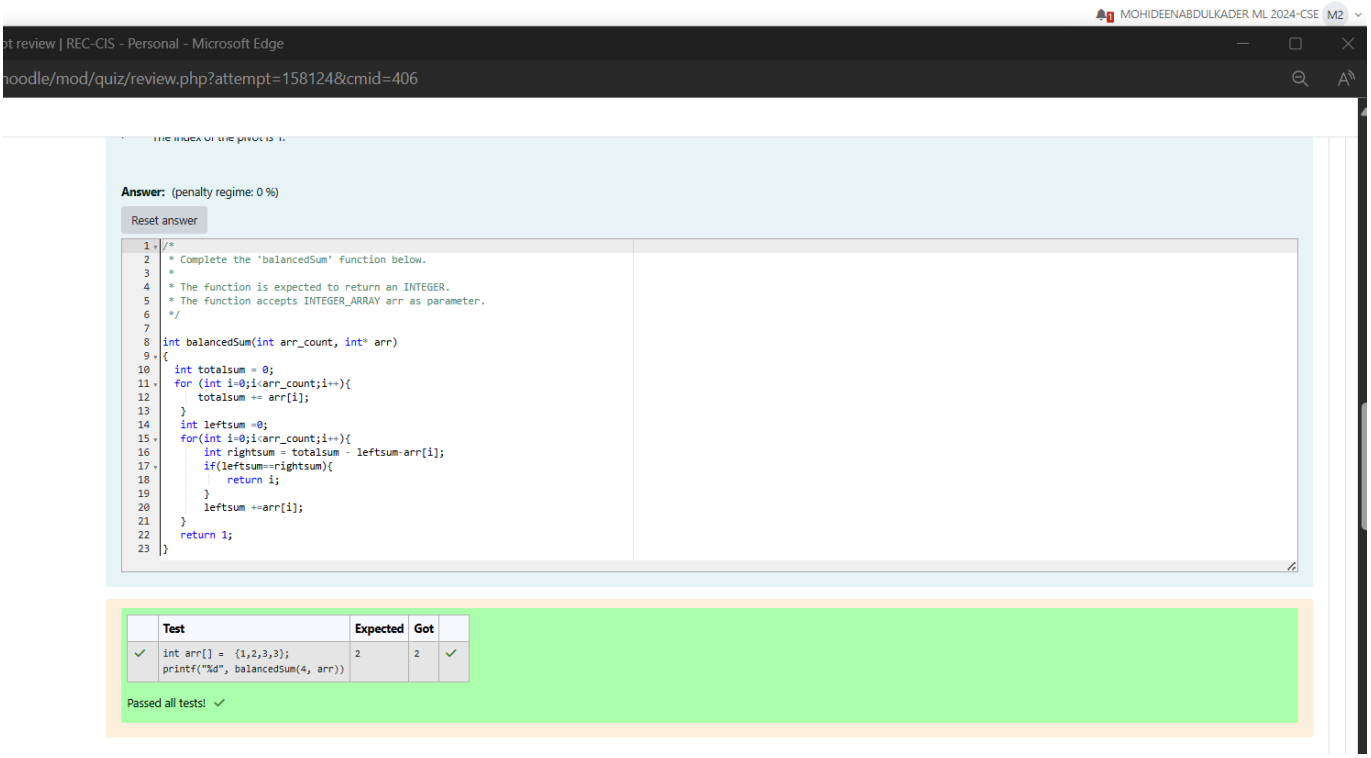
Sample Output 1

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.

Coding and output :



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.

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 $0 \le i < n$.

```
STDIN       Function
-----       --------
5       →   numbers[] size n = 5
1       →   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       →   numbers[] size n = 2
12      →   numbers = [12, 12]
12
```

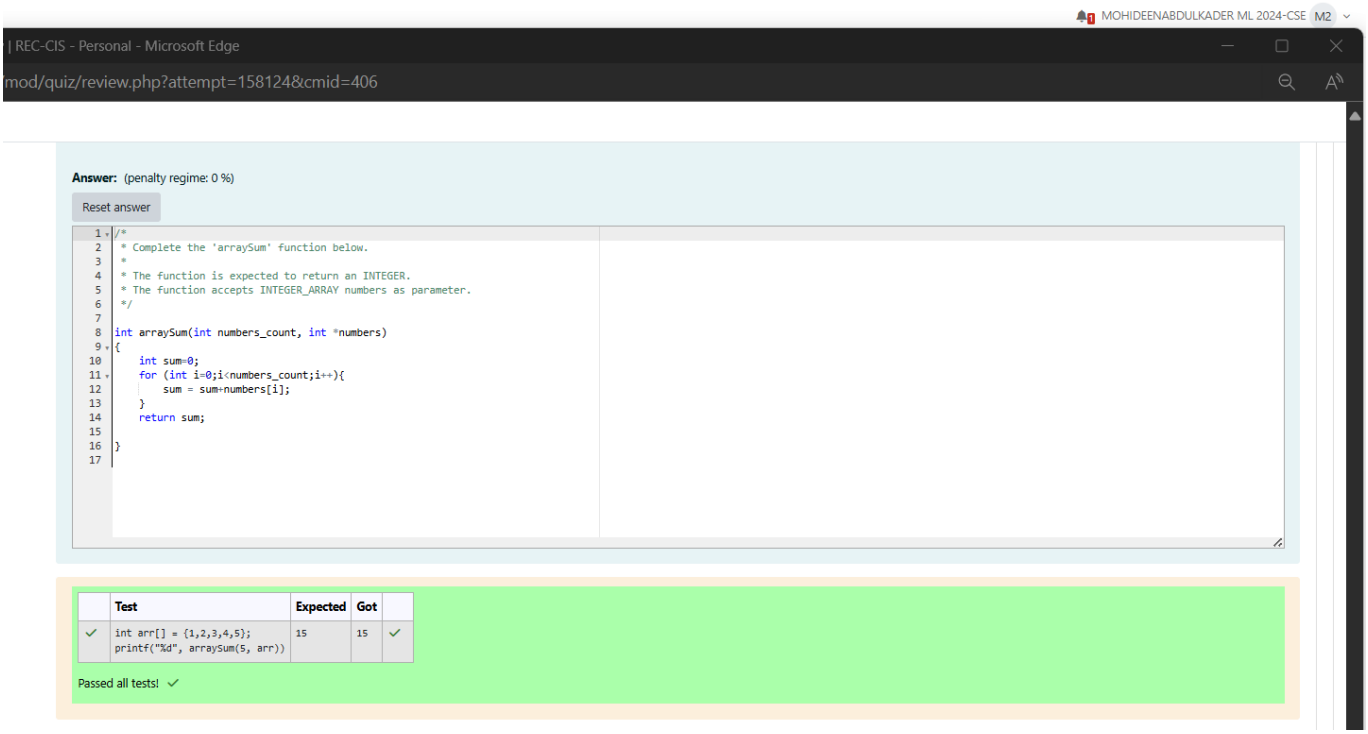
Sample Output 1

```
24
```

Explanation 1

12 + 12 = 24.

code and output:



Question 3, code and output: