Logo

STUDENT REPORT

DETAILS

Name

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Roll Number

KUB23ECE037

EXPERIMENT

Title

EQUILIBRIUM

Description

You are given an array A of N integers. An equilibrium position is a position where the sum of all integers on its left is equal to the sum of all integers on its right in the array A. Print the index of the equilibrium position.

Note:For any given array there is only a single equilibrium position, if no equilibrium position is found then print "NOT FOUND" without quotes.

The array is 1 indexed.

Input Format:

The input consists of two lines:

The first line contains an integer denoting N.

The second line contains N space-separated integers denoting the elements of the array A.

Input will be read from the STDIN by the candidate

Output Format:

Print the index of the equilibrium position. If no index is found, print "NOT FOUND"

Sample Input

5

2 4 7 3 3

Sample Output

3

Source Code:

```
def find_equilibrium_position(arr):

    total_sum = sum(arr)  # Calculate the total sum of the array

    left_sum = 0  # Initialize left sum to 0

    for i in range(len(arr)):
        # Right sum can be derived from total_sum and left_sum
        right_sum = total_sum - left_sum - arr[i]

        if left_sum == right_sum:
            # Return 1-indexed position
            return i + 1

        # Update the left sum for the next iteration
        left_sum += arr[i]

    return "NOT FOUND"

# Input reading
n = int(input().strip())  # Read the integer N
arr = list(map(int, input().strip().split()))  # Read the array A

# Calculate and print the result
result = find_equilibrium_position(arr)
print(result)
```

RESULT

5 / 5 Test Cases Passed | 100 %