STUDENT REPORT

DETAILS

Name

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Roll Number

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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_index(N, A):
    total_sum = sum(A)
    left_sum = 0

    for i in range(N):
        # right_sum is total_sum - left_sum - A[i]
        right_sum = total_sum - left_sum - A[i]

        if left_sum == right_sum:
            # Return the index as 1-indexed
            return i + 1

        # Update the left_sum for the next iteration
        left_sum += A[i]

    return "NOT FOUND"

# Input reading
import sys
input = sys.stdin.read
data = input().splitlines()

N = int(data[0])
A = list(map(int, data[1].split()))

# Output the result
print(find_equilibrium_index(N, A))
```

RESULT

5 / 5 Test Cases Passed | 100 %