- **EASY**
- **Max Score: 20 Points**
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Equilibrium Index

Given an array of size `n`, find the equilibrium index in the array, or return -1 if it does not exist.

The equilibrium index is that index such that the sum of elements at lower indices is equal to sum of elements at higher indices.

complete the function that returns the equilibrium index given an array.

Input Format

The first line of the input contains one integer `n`, denoting the size of the array `arr`.

The second line of the input contains the elements of the array `arr`.

Output Format

Your code should output the equilibrium index if it exists, else output `-1`.

Example 1

Input

```
4
2 3 1 1
```

Output

```
1
```

Explanation

The value at index 1 is 3, we can see that sum of elements left of 3 is 2 and sum of elements right of 3 is 1+1=2 therefore 3 is the equilibrium index.

Example 2

Input

```
3
3  3  4
```

Output

```
-1
```

Explanation

there is no index for which leftsum is equal to rightsum therefore value is -1

Example 3

Input

```
1
2
```

Output

```
0
```

Explanation

As sum left of index 0 is 0 and right of index 0 is 0 as there is only one element. the equilibrium index is 0.

Constraints

```
1 <= n <= 2*10^5

0 <= arr[i] <= 1000
```

My code

```java
// n java
import java.util.*;
import java.lang.*;
import java.io.*;

public class Main
{
    public static void main (String[] args) throws
java.lang.Exception
    {
        //your code here
        Scanner s=new Scanner(System.in);
        int n=s.nextInt();
        int arr[]=new int[n];
        int sum=0;
        for(int i=0;i<n;i++)
            {
            arr[i]=s.nextInt();
```

```java
                sum+=arr[i];
        }
    int sum2=0;
    for(int i=0;i<n;i++)
        {
            if(sum2==(sum-sum2-arr[i]))
            {
                System.out.print(i);
                return;
            }
            sum2+=arr[i];

        }
    System.out.print("-1");
    }
}
```