- **MEDIUM**
- **Max Score: 40 Points**
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SUBARRAY WITH ZERO SUM

Given an array of positive and negative numbers. Find if there is a subarray (of size at-least one) with 0 sum.

Input Format

line 1: contains an integer n denoting size of array.

line 2: contains n spaced integers denoting elements of array.

Output Format

Print "YES" if there exist a subarray with 0 sum otherwise print "NO".(without quotes)

Example 1

Input

```
5
4 2 -3 1 6
```

Output

```
YES
```

Explanation

1-based indexing the subarray sum of 2 to 4 is zero i.e. [2, -3, 1] have a sum equal to 0

Example 2

Input

```
5
4 2 0 1 6
```

Output

```
YES
```

Explanation

1-based indexing the subarray sum of 3 to 3 is zero i.e. [0] have a sum equal to 0

Constraints

1<=n<=10^5

-10^5<=arr[i]<=10^5

My code

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

public class Main
{
```

```java
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();

        }
    HashSet<Integer> hs=new HashSet<>();
    for(int i=0;i<n;i++)
    {
        sum+=arr[i];
    if(hs.contains(sum))
     {
         System.out.print("YES");
        return;
      }
            hs.add(sum);
    }
    System.out.print("NO");
    }
}
```