



Permutation Possibility

locked



by darkshadows

Problem

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A [permutation](#) of a sequence, $S = \{s_0, s_1, \dots, s_{m-1}\}$, is a sequence consisting of some rearrangement of the m elements of S . For example, all the permutations of $S = \{1, 2, 3\}$ are $\{1, 2, 3\}$, $\{1, 3, 2\}$, $\{2, 1, 3\}$, $\{2, 3, 1\}$, $\{3, 1, 2\}$, and $\{3, 2, 1\}$.

Mark writes sequence S on a piece of paper and asks Lisa to insert zero or more integers *anywhere* in the sequence so that it becomes a permutation of $\{1, 2, \dots, n\}$ (i.e., a sequence of distinct integers from 1 to n) for any integer n .

Given S , print YES if Lisa's task is possible; otherwise, print NO instead.

Input Format

The first line contains a single integer denoting m .

The second line contains m space-separated integers describing the respective values of s_0, s_1, \dots, s_{m-1} .

Constraints

- $1 \leq m \leq 100$
- $1 \leq s_i \leq 10^5$

Output Format

If Lisa can insert integers into the sequence to make it a permutation of $\{1, 2, \dots, n\}$ for any n , print YES; otherwise, print NO instead.

Sample Input 0

```
3
1 2 3
```

Sample Output 0

```
YES
```

Explanation 0

Sequence $S = \{1, 2, 3\}$ is already a sequence of $n = 3$ distinct integers. Because Lisa's task is complete without adding any elements, we print YES.

Sample Input 1

```
3
2 2 1
```

Sample Output 1

```
NO
```

Explanation 1

The sequence $S = \{2, 2, 1\}$ cannot be converted into a permuted sequence of n distinct integers because no amount of added integers will change that the number **2** appears twice in the sequence. Thus, we print **NO**.

Sample Input 2

```
3
4 1 6
```

Sample Output 2

YES

Explanation 2

Given $S = \{4, 1, 6\}$, Lisa can insert **2**, **3**, and **5** into S to turn it into a sequence of $n = 6$ distinct integers. Thus, we print **YES**.

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Submissions: 2701



Max Score: 15

Difficulty: Easy

Rate This Challenge:

★★★★★ Thanks!

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Current Buffer (saved locally, editable)  

C#

```
1 using System;
2 using System.Collections.Generic;
3 using System.IO;
4 using System.Linq;
5 class Solution {
6
7     static void Main(String[] args) {
8         int m = Convert.ToInt32(Console.ReadLine());
9         string[] s_temp = Console.ReadLine().Split(' ');
10        int[] s = Array.ConvertAll(s_temp, Int32.Parse);
11        // Write Your Code Here
12
13        if (s.Distinct().ToArray().Length == m)
14        {
15            Console.WriteLine("YES");
16        }
17        else
18        {
19            Console.WriteLine("NO");
20        }
21    }
22 }
23
```

Line: 18 Col: 10

 [Upload Code as File](#)

☐ Test against custom input

Run Code

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