Task 2: `Hungry Cats`

In the kingdom of cannibalistic cats, Ket the cat has just been informed that National Cat Day (NCD) will be held tomorrow. As the appointed software engineer, he is tasked with developing a system to report on the cannibalism situation.

There are n cats joining the NCD celebration, numbered from 1 to n. The i-th cat has a happiness level of $h[i]$. At any point in time, a cat may eat a **strictly** less happy cat. After this happens, the happier cat's happiness level **increases by 1** and it is **no longer able to eat any other cats**. In addition, the less happy cat vanishes.

Ket is tasked with determining whether it is possible for only one cat to be left at the end of the celebration. This means that all other cats were eaten.

Input Format

Your program must read from standard input.

The first line of input contains an integer n.

The second line of input contains n space-separated integers $h[1], h[2], \ldots, h[n]$.

Output Format

Your program must print to standard output.

Output `YES` if it is possible for only one cat to be left after the celebration, or `NO` otherwise.

Subtasks

For all test cases, the input will satisfy the following bounds:

- $2 \leq n \leq 200\,000$
- $0 \leq h[i] \leq 10^9$ for all $1 \leq i \leq n$

Your program will be tested on input instances that satisfy the following restrictions:

Subtask	Score	Additional Constraints
0	0	Sample test cases
1	8	$n = 2$
2	10	$n \leq 3$
3	6	$h[1] = h[n]$
4	18	$n \leq 1000$
5	28	h is non-decreasing ($h[i] \leq h[i+1]$ for all $1 \leq i \leq n-1$)
6	30	No additional constraints

Sample Test Case 1

This test case is valid for subtasks 1, 2, 4, and 6.

Input	Output
2 3141 59	YES

Sample Test Case 2

This test case is valid for subtasks 2, 4, 5, and 6.

Input	Output
3 31 41 59	YES

Sample Test Case 2 Explanation

There are $n = 3$ cats with happiness levels 31, 41, and 59. It is possible for one cat to be left after the celebration if the second cat eats the first cat and subsequently gets eaten by the third cat.

Sample Test Case 3

This test case is valid for subtasks 3, 4, and 6.

Input	Output
5 10 0 24 25 10	NO

Sample Test Case 3 Explanation

It is impossible for the cats to eat each other in a way that leaves one cat remaining at the end of the celebration.

Sample Test Case 4

This test case is valid for subtasks 4 and 6.

Input	Output
6 2 25 11 5 20 26	NO