

Begin: 2021-08-27
17:30 UTC-3

SCC0211 - Aula 02 (Gulosos)

End: 2021-09-05
23:59 UTC-3

Elapsed: 28:32:31

Running

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193:57:27

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Time limit

2000 ms

Memory limit

1048576 kB

B - Build Stairs

Problem Statement

There are N squares arranged in a row from left to right. The height of the i -th square from the left is H_i .

For each square, you will perform either of the following operations once:

- Decrease the height of the square by 1.
- Do nothing.

Determine if it is possible to perform the operations so that the heights of the squares are non-decreasing from left to right.

Constraints

- All values in input are integers.
- $1 \leq N \leq 10^5$
- $1 \leq H_i \leq 10^9$

Input

Input is given from Standard Input in the following format:

N

$H_1 \ H_2 \ \dots \ H_N$

Output

If it is possible to perform the operations so that the heights of the squares are non-decreasing from left to right, print Yes; otherwise, print No.

Sample Input 1

5

1 2 1 1 3

Sample Output 1

Yes

You can achieve the objective by decreasing the height of only the second square from the left by 1.

Sample Input 2

4

1 3 2 1

Sample Output 2

No

Sample Input 3

5
1 2 3 4 5

Sample Output 3

Yes

Sample Input 4

1
1000000000

Sample Output 4

Yes

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Server Time: 2021-08-28 22:02:31 UTC-3