Beta Release (beta)

Giorgio is developing a new online FPS game! As he should now have got rid of most bugs, he decided to start a beta program. The game is now released free to play, with a disclaimer kindly asking[1] each user to play only a *single* game (except of course for Giorgio's user, which can play as many games as he likes). Since the game is still in the development phase, it is currently run on a very small server, which is having trouble handling the traffic resulting from the beta release. Giorgio is thus starting to wonder whether some users are playing multiple games, ignoring his polite request!

Figure 1: Sample of the cutting-edge graphics of the new game by Giorgio.

You are given the server logs, which consist of the N user identifiers V_i ($0 \leq i < N$) of the games played so far. Among them are included the games played by Giorgio himself; however, the identifiers are anonymised so that you are unable to distinguish his one from the others. Help Giorgio check whether there are users playing multiple games!

> ☞ Among the attachments of this task you may find a template file `beta.*` with a sample incomplete implementation.

Input

The first line contains the only integer N. The second line contains N integers V_i.

Output

You need to write a single line with the string `'YES'` if there are certainly users playing the game multiple times, or `'NO'` if it may be the case that the only user playing multiple games is Giorgio.

Constraints

- $1 \leq N \leq 100\,000$.
- $1 \leq V_i \leq 10^9$ for each $i = 0 \ldots N-1$.

[1] Kindness always wins (or so they say).

Scoring

Your program will be tested against several test cases grouped in subtasks. In order to obtain the score of a subtask, your program needs to correctly solve all of its test cases.

– **Subtask 1** (0 points) Examples.

– **Subtask 2** (30 points) $N \leq 1000$, $V_i \leq 10^6$.

– **Subtask 3** (15 points) $N \leq 1000$.

– **Subtask 4** (35 points) $V_i \leq 10^6$.

– **Subtask 5** (20 points) No additional limitations.

Examples

input	output
5 17 42 42 31 58	NO
7 98 13 28 98 28 37 45	YES

Explanation

In the **first sample case**, Giorgio could have identifier 42, and thus it is possible that no player is ignoring the kind request.

In the **second sample case**, even if Giorgio has identifier 98 or 28, there is definitely another player ignoring the kind request and playing a second game.