

Problem B. Card Game

Input file: *standard input*
Output file: *standard output*
Time limit: 1 second
Memory limit: 256 mebibytes

Zenyk and Marichka start playing Marichka's favourite card game. But Zenyk forgets even how the deck looks like. Of course, he can't just ask Marichka.

He knows that deck contains N cards. Also there are some number of suits, let's say it's K . Number of cards of each suit is the same. Suits are numbered from 1 to K .

At the beginning of the game M cards were dealt. So Zenyk knows suits of these cards. Help Zenyk to find if it's possible to determine the value of K uniquely. Note that the deck is valid so at least one valid value of K exists.

Input

The first line contains 2 integers – N and M ($1 \leq N \leq 10^9$, $1 \leq M \leq \min(N, 10^5)$).

The second line contains M integers A_i – suit of the i -th card ($1 \leq A_i \leq N$).

Output

Print "YES" if it's possible to determine number of suits uniquely and "NO" otherwise.

Examples

standard input	standard output
36 11 1 4 2 4 4 2 4 1 4 4 4	YES
4 2 1 1	NO

Note

In the first test the only valid situation is 4 suits 9 cards each.

In the second test there can be 1 or 2 suits.