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A. Flag

time limit per test: 2 seconds
 memory limit per test: 64 megabytes

According to a new ISO standard, a flag of every country should have a chequered field $n \times m$, each square should be of one of 10 colours, and the flag should be «striped»: each horizontal row of the flag should contain squares of the same colour, and the colours of adjacent horizontal rows should be different. Berland's government asked you to find out whether their flag meets the new ISO standard.

Input

The first line of the input contains numbers n and m ($1 \leq n, m \leq 100$), n — the amount of rows, m — the amount of columns on the flag of Berland. Then there follows the description of the flag: each of the following n lines contain m characters. Each character is a digit between 0 and 9, and stands for the colour of the corresponding square.

Output

Output YES, if the flag meets the new ISO standard, and NO otherwise.

Examples

input	Copy
3 3 000 111 222	
output	Copy
YES	

input	Copy
3 3 000 000 111	
output	Copy
NO	

input	Copy
3 3 000 111 002	
output	Copy
NO	

→ Attention

The package for this problem was not updated by the problem writer or Codeforces administration after we've upgraded the judging servers. To adjust the time limit constraint, a solution execution time will be multiplied by 2. For example, if your solution works for 400 ms on judging servers, then the value 800 ms will be displayed and used to determine the verdict.

Codeforces Beta Round 16 (Div. 2 Only)

Finished

Practice



→ Virtual participation

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Language: GNU G++23 14.2 (64 bit, ms)

Choose file: [Choose File](#) No file chosen

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Submission	Time	Verdict
327075822	Jul/02/2025 14:30	Accepted

→ Problem tags

implementation *800

No tag edit access

→ Contest materials

- Announcement ✕
- Tutorial ✕

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