

Grid Challenge

Given a square grid of characters in the range `ascii[a-z]`, rearrange elements of each row alphabetically, ascending. Determine if the columns are also in ascending alphabetical order, top to bottom. Return `YES` if they are or `NO` if they are not.

Example

```
grid = ['abc','ade','efg']
```

The grid is illustrated below.

| | | |
|---|---|---|
| a | b | c |
| a | d | e |
| e | f | g |

The rows are already in alphabetical order. The columns `a a e`, `b d f` and `c e g` are also in alphabetical order, so the answer would be `YES`. Only elements within the same row can be rearranged. They cannot be moved to a different row.

Function Description

Complete the `gridChallenge` function in the editor below.

`gridChallenge` has the following parameter(s):

- `string grid[n]`: an array of strings

Returns

- `string`: either `YES` or `NO`

Input Format

The first line contains `t`, the number of testcases.

Each of the next `t` sets of lines are described as follows:

- The first line contains `n`, the number of rows and columns in the grid.
- The next `n` lines contains a string of length `n`

Constraints

$1 \leq t \leq 100$

$1 \leq n \leq 100$

Each string consists of lowercase letters in the range `ascii[a-z]`

Output Format

For each test case, on a separate line print `YES` if it is possible to rearrange the grid alphabetically ascending in both its rows and columns, or `NO` otherwise.

Sample Input

| STDIN | Function |
|-------|--|
| ----- | ----- |
| 1 | t = 1 |
| 5 | n = 5 |
| ebacd | grid = ['ebacd', 'fghij', 'olmkn', 'trpqs', 'xywuv'] |
| fghij | |
| olmkn | |
| trpqs | |
| xywuv | |

Sample Output

YES

Explanation

The **5x5** grid in the **1** test case can be reordered to

```
abcde
fghij
klmno
pqrst
uvwxy
```

This fulfills the condition since the rows 1, 2, ..., 5 and the columns 1, 2, ..., 5 are all alphabetically sorted.