

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.