
Zig-zag**P71711_en**

Write a program that reads several matrices of integer numbers, and that for each one tells whether the result of traversing it in zig-zags is a strictly increasing sequence. We must start at the top-left position, go down the first column, up the second column, down the third column, and so on.

Input

Input consists of several matrices, each with the number of rows $r \geq 1$ and the number of columns $c \geq 1$, followed by r rows with c integer numbers each.

Output

For every matrix, print its number followed by either “yes” o “no”, depending on whether the zig-zag traversal of the matrix generates a strictly increasing sequence or not.

Sample input 1

```
3 4
10 15 36 41
11 14 37 40
12 13 38 39

3 2
10 11
12 13
14 15

2 2
5 7
6 6
```

```
2 3
1 4 5
2 3 5
```

```
1 1
-3
```

```
1 3
4 6 8
```

```
2 1
100
200
```

Sample output 1

```
matriu 1: yes
matriu 2: no
matriu 3: no
matriu 4: no
matriu 5: yes
matriu 6: yes
matriu 7: yes
```

Problem information

Author: Professors de P1

Translator: Salvador Roura

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