

Murio Jumping!

Problem ID: muriojumping

Nindento is making a new 2D Murio game!, but they're very new at game design and need your help to test out their levels, to see if they can be beaten or not.

The game has a new mechanic that every level, Murio can jump H and fall F a different height at every level, some levels he wont even be able to jump or fall without losing.

But as a programmer you know better than to just test it manually, you thought to yourself... why not just test it with a script?

A level is made up of R times C tiles (a square level of tiles) and only contains solid blocks and air.

You extracted the data of the levels and flipped it 90° to make it more readable for your sophisticated AI!

Input

The input is 1 level of Murio Jumping, it starts with 4 integers, $1 \leq R, C \leq 10.000$ to define the row and columns of the level, and $1 \leq H, F \leq 10$ to define jump height H and the maximum fall height F .

Next follows R lines with C symbols in every line. an "x" defines a solid block that Murio needs to traverse, and "." defines empty space.

Output

If Murio can make it through the level without failing jumps or falls, you must output "Wahoo!", otherwise output the R that Murio fails on.

Sample Input 1

```
5 5 2 1
.....
x.....
xxx...
xx....
x.....
```

Sample Output 1

Wahoo!

Sample Input 2

```
3 5 1 1
x.....
xxx...
xx....
```

Sample Output 2

2