

Sheep

Mirko has a herd of sheep, surrounded by fences backyard. While he was asleep, wolves have sneaked into the fenced area and attacked the sheep.

Backyard is of a rectangular shape, and consists of fields arranged in rows and columns.

Character '.' (fullstop) represents a blank field.

Character '#' represents a fence.

Character 'k' represents a sheep.

Character 'v' represents a wolf.

Two fields belong to the same sector if we can move from the field **A** to the field **B** without going over the fence, by making only **horizontal** and **vertical** steps (we cannot move diagonally).

If we can escape from field A from the backyard, that field does not belong to any sector.

Luckily, Mirko taught his sheep Kung-Fu skills, and **they can defend themselves against wolves only if they outnumber the wolves in that sector**. When there are more sheep in the sector than wolves, all wolves die without sheep casualties. Otherwise all sheep perish and wolves are unharmed. If a field doesn't belong in any sector, sheep will flee and wolves will be left without a prey, so every animal survives.

Write a program that will determine how many sheep and wolves will survive this bloody night.

Input

Integers N and M, number of rows and columns which represent Mirko's backyard.

In every of the N lines, there are M characters representing the appearance of Mirko's backyard - positions of the fences, wolves and sheep.

Constraints

$3 \leq N, M \leq 250$

Output

In the first and the only line, print the number of **sheep** and **wolves** that will survive.

Example

Input:

8 8

.#####.

#.k...#

#####.

##v.##

##k##

#k.##.

#v.v.#

.#####.

Output:

3 1