

## Velociraptor is fit

P22437\_en

When a velociraptor does not smell human blood, takes advantage to do some exercise and mark its territory. In a rectangular room  $n \times m$  with obstacles, our friend starts running trying to keep the direction and the sense of its movement while it is possible, leaving a pheromone trace. Under any circumstances it will go out of the room, nor will cross an obstacle, nor will cross a square that was crossed previously. In these cases, velociraptor will turn 90 degrees to the right. If, even turning 90 degrees, the velociraptor could not continue, it would stop.

Implement a program that prints the squares where the velociraptor has been before stoping. The velociraptor always starts in the central position of the room, moving towards north.

### Input

The input describes a room. The first line has the number of rows  $n$  and the number of columns  $m$ . It is fulfilled that  $2 < n, m < 200$ .  $n$  as well as  $m$  are odd numbers.  $n$  lines follow, with  $m$  characters each one. An asterisk indicates an obstacle. The central position is always free.

### Output

Your program must print the board with a 'V' in each position where the velociraptor has been.

#### Sample input 1

```
9 19
.....
.....*..
.....*.....
.....*..*..
.....*..*..
.....
.....
....*.....*..
.....*
.....
```

#### Sample input 2

```
3 3
.*.
...
...
```

#### Sample input 3

```
3 3
.*.
..*
...
```

#### Sample output 1

```
VVVVVVVVVVVVVVVVVVV
V.....VV*.V
V.....*....VV.V
V.....VVVV*VV.*V
V.....V..V.VV.V
V.....V.VV.V
V...*.....V*VVVVV
V.....V.....*
VVVVVVVVVVVV.....
```

#### Sample output 2

```
V*.
VVV
VVV
```

#### Sample output 3

```
.*.
.V*
...
```

**Problem information**

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Generation: 2026-01-25T10:14:37.864Z

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