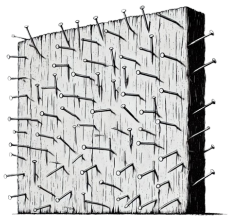
Task Zid



Mr. Malnar wants to put up a picture of himself on the wall. The wall can be represented as a matrix with n rows and m columns. Since he has placed his picture on the wall many times before, some positions still have nails embedded in them. Such positions are marked with the symbol `"#"`, while empty spots are marked with the symbol `"."`.

The picture has a rectangular shape with arbitrary dimensions and is placed on the wall in a way that it covers a rectangular area. The picture can be placed on the wall if it covers at most one position that contains a nail.

Help Mr. Malnar calculate the number of ways he can place his picture on the wall.

Input

The first line of input contains n and m ($1 \leq n, m \leq 500$), the dimensions of the wall.

In each of the next n lines, there are m characters c_{ij}, describing the wall. Each character will be either `"."` or `"#"` (without quotes).

Output

In a single line of output, print the number of possible ways to place the picture on the wall.

Scoring

Subtask	Points	Constraints
1	17	$n, m \leq 10$
2	21	$n, m \leq 100$
3	32	No additional constraints.

Examples

input

```
3 3
...
...
..#
```

output

```
36
```

input

```
4 4
....
.#..
#...
#.#.
```

output

```
76
```

input

```
5 5
.....
#..#.
..#.#
.....
..#..
```

output

```
154
```

Clarification of the first example:
Each placement of the picture is valid as long as it covers at most one nail.

Clarification of the second example:
The picture cannot be placed in a way that it covers positions (3, 1) and (4, 1) simultaneously.