Islamic University of Technology
Department of Computer Science and Engineering
Course: CSE 4404 – Algorithms Lab
Course Teacher: Md Moniruzzaman
Lab 4 (Test 1)– Section 1A
Date: 08-DEC-2021

Imagine you are playing the classic game of snake, where you can navigate the snake to left, right, up and down. You are given a 2D map containing dot (.) and exclamation mark (!). You can start the game by placing snake at any location of the map. The snake can move along only following the dots (.). It cannot go through an exclamation mark !. Once a snake is placed, it can only be navigated along the dots, it cannot be replaced to a new location. Your task is to find how many snakes will be needed to visit all the dots of the map.

Input:
The first line contains dimension of the map given as a pair of integers h and w. Next h lines contain w characters in each line representing the map.

Output:
Print one integer as output denoting the number of snakes needed to visit all the dots of the map.

Constraints
$1 \leq h , w \leq 1000$

Sample Input:
5 8
! ! ! ! ! ! ! !
! . . ! . . . !
! ! ! ! . ! . !
! . . ! . . . !
! ! ! ! ! ! ! !

Sample Output:
3