

# Handshaking

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Time Limit – 1 second

Inside a park, there are  $R$  rows of benches where each row can hold a capacity of  $S$  people. We can imagine the seating order as a matrix sized  $R \times S$  where each element represents either a person or an empty seating space.

Let's assume that each person shakes hands with their neighbors. That means the neighbors are located in one of the eight neighboring elements (if such element exists).

A seating order of the people inside the park has been given before you enter. You, of course, late for the morning gathering and will sit in an empty space so that you shake hands with **as many people as you can**. If there are no empty seats left, you will not seat.

We can assume that nobody enters the park after you. Calculate the total number of handshakes that might have.

## Input:

The first line of input contains positive integers  **$R$  and  $S$  ( $1 \leq R, S \leq 80$ )** as stated above.

Each of the following  $R$  lines contains  $S$  characters. These  $R \times S$  characters represent the seating order. The character '.' (dot) represents an empty place and the character 'x' (lowercase letter x) represents a person.

## Output:

For each test case, output one line containing "Case **cs**: ", where **cs** is the test case number, followed by the total number of handshakes that have occurred.

See the sample I/O.

Sample Input	Sample Output
<b>2</b>  <b>2 3</b> ..x x..  <b>2 2</b> xx xx	<b>Case 1: 2</b> <b>Case 2: 6</b>