# A case of “effective” Schmoozing!

Vyomesh Arya is an upcoming singer. All he needs is a break in the Bollywood music industry. So, Vyomesh goes around attending various Bollywood parties in Mumbai to schmooze (chatter, small talk, gossip) with the recording industry’s elite A-list community that has the topnotch professionals of the Indian music industry. You are Vyomesh’s techie friend who has agreed to help him in his mission. You accompany him to all the parties but wait outside in your car. Vyomesh enters the party room and then, scans the room for all the available A-list people using a small camera hidden in his sunglasses and relays that information back to you. Sitting in the car, you identify the groups of A-list people and relay this information back to Vyomesh so that he can go to those groups and try marketing himself without wasting any time with other less-important people (you see, he’s in a hurry to be a star!).

The party rooms are all rectangular grids and each type of person is marked with an upper case letter depending on his category (e.g., ‘A’ if the person belongs to A-list, ‘B’ if the person belongs to B-list, ‘C’ if the person belongs to C-list etc.). If nobody is occupying a particular place, it is marked with a period ‘.’. A group of A-list people is a connected group if each A-list member is a horizontal or vertical neighbor of another A-list person. You aim is to determine how many A-list groups there in each party that have at least 3 members [remember, Vyomesh doesn’t want to worry about (a) non-A-list groups and (b) A-list groups with fewer than 3 people).

## Input

The input file may contain multiple test cases. Input for each test case begins with two integers r and c (1 < r < 50 and 1 < c < 50) representing number of rows and columns respectively of the party room. This is followed by r lines each containing c characters, each an uppercase alphabet or a period. The end of all test cases (and hence, the input itself) is signified by r having a value of 0.

## Output

For each test case, generate one line of the form n m where n signifies the test case number (starting at 1) and m signifies the number of A-list groups with at least 3 members.

## An example of multiple test cases

|  |  |
| --- | --- |
| Input | Output |
| 4 5  AAABA  A..BA  A...A  ACA.A  5 5  AA.AA  ABA.A  BAA.A  CCC.A  BAAA.  0 | 1 2  2 4 |

## Explanation

Consider the first test case:

4 5

AAABA

A..BA

A...A

ACA.A

AAABA

A..BA

A...A

ACA.A

The input 4 and 5 indicate that the first party room has a rectangular grid of 4 rows and 5 columns of people. The first row has three consecutive A-list people followed by a B-list person and then, an A-list person. The second row has one A-list person, two vacant spots (indicated by two ‘.’s) followed by a B-list person and an A-list person and so on. Look at the box on your right. For easy identification, we have colour-coded the A-list groups. The first A-list group has 6 people (highlighted in red) and the second A-list group has 4 people (highlighted in green). Since this was the first test case and number of A-list groups having 3 or more members is 2, your program should print 1 2

Consider the second test case:

AA.AA

ABA.A

BAA.A

CCC.A

BAAA.

5 5

AA.AA

ABA.A

BAA.A

CCC.A

BAAA.

The input 5 and 5 denotes that the second party room has a rectangular grid of 5 rows and 5 columns of people. Look at the box on your right. Here too, we have colour-coded the A-list groups. The first A-list group has 3 people (highlighted in green), the second A-list group has 5 people (highlighted in blue), the third A-list group has 3 people (highlighted in grey) and the fourth and the last A-list group has 3 members (highlighted in red). Since this was the second test case and number of A-list groups having 3 or more members is 4, your program should print 2 4

## General Instructions

* Your solution would be validated by our Automated Solution Validator (ASV) and hence, it is very important for your program to adhere to the rules and guidelines laid down by the ASV (please refer to Code Mania 2009 Third Edition email for more details)
* The format of the input and the output files are strictly governed by the ASV. Therefore, you are requested to adhere to the exact formats mentioned above
* The solution submitted is liable to rejection if
  + it is found to be copied from the internet or any other source
  + the source code has compilation errors
* In case of any dispute, the decision of the judges would be final