

Problem 6—Find a CLU

There are many copies of the CLU program running around inside the video game world. You must find out how many non-overlapping copies there are.

Imagine the video game world is a rectangular grid containing capital letters. You are to look for instances of the word CLU. CLU will be contiguous, but not necessarily linear. This is to say that the letters of CLU are connected horizontally, vertically, or diagonally (C adjoins L; L adjoins U), but the word may change direction within the grid. You are to indicate how many non-overlapping instances of the word CLU are present. In the event that there is more than one way to select non-overlapping CLU's, you are to find the method that selects the *maximum* number of non-overlapping CLU's,

INPUT SPECIFICATION. Each input case consists of two unsigned positive decimal integers less than or equal to 10 separated by one space and followed by <EOLN>, representing the number of rows and columns (r and c), respectively in the grid. Following this will be r lines consisting of c capital letters each, followed by <EOLN>. The last input case will be followed by “0 0<EOLN>”.

OUTPUT SPECIFICATION. The output cases should appear in same order as the input. Each output case should be of the form “Case c : There are n independent CLU(s) on the board.” where n is the desired answer. Each output case should be followed by two <EOLN>'s.

SAMPLE INPUT.

```
1 3<EOLN>
CLU<EOLN>
2 3<EOLN>
LCL<EOLN>
UXU<EOLN>
0 0<EOLN>
<EOF>
```

SAMPLE OUTPUT.

```
Case 1: . . . There are 1 independent CLU(s) on the board. <EOLN>
<EOLN>
Case 2: . . . There are 1 independent CLU(s) on the board. <EOLN>
<EOLN>
<EOF>
```