Problem F
Maze

By filling a rectangle with slashes (/) and backslashes (\), you can generate nice little mazes. Here is an example:



As you can see, there are no branchings, so the whole maze only consists of cyclic paths and of paths entering somewhere and leaving somewhere else. We are only interested in the cycles. In our example, there are two of them.

Your task is to write a program that counts the cycles and finds the length of the longest one. The length is defined as the number of small squares the cycle consists of (the ones bordered by gray lines in the picture). In this example, the long cycle has length 16 and the short one length 4.

Input

The input consists of several test cases. Each case begins with one line containing the width and the height of the maze, followed by the maze itself. After the last case, there is a line containing "`0 0`".

Output

For each maze, first output the line "`Maze #`n`:`", where n is the number of the maze. Then, output the line "k `Cycles; the longest has length` l`.`", where k is the number of cycles and l the length of the longest one. If the maze doesn't contain any cycles, output the line "`There are no cycles.`".

Output a blank line after each test case.

Sample Input

```
2 5
\\
\\
/\
\/
/\
4 4
/\/\
\\//
//\\
\/\/
0 0
```

Sample Output

```
Maze #1:
1 Cycles; the longest has length 4.

Maze #2:
1 Cycles; the longest has length 20.
```