[CS 11] Prac 8b – The 51st Battle of Kaguya and Yuzuru

Problem Statement

The 51st battle of Kaguya and Yuzuru is underway.

In this battle, they decided to play a modified version of Tic Tac Toe. It is played on an $r \times c$ rectangular grid. The players take turns, with Kaguya first. On their move, Kaguya puts a letter `K` and Yuzuru puts a letter `Y`. When all the cells are filled, Kaguya and Yuzuru will then compute their *score*. Every four-in-a-row corresponding to their letter is counted as 1 point. The winner is the person with the more points.

```
*...  .*..  ...* ....
.*..  .*..  ..*. ****
..*.  .*..  .*.. ....
...*  .*..  *... ....
```

Given the final state of the grid, what are the scores of Kaguya and Yuzuru?

Task Details

Your task is to implement a function called `battle_tictactoe_scores`. This function has a single parameter, a `tuple` of r `str`s, each of which has length c and consists of the letters `K` and `Y`. This represents the final grid, after all rc moves.

The function must return a pair of `int`s:

- the first is the score of Kaguya.
- the second is the score of Yuzuru.

Restrictions

(See 8a for more restrictions)

For this problem:

- Loops and lists are allowed.
- Up to 8 function definitions are allowed.
- Recursion is **disallowed**. (The recursion limit has been greatly reduced.)
- Sets and dictionaries are allowed.
- Generators and comprehensions are allowed.
- The source code limit is 1000.

Example Calls

Example 1 Function Call

```
battle_tictactoe_scores((
    'KKKKKKY',
    'YKYKYKY',
    'KYKYKYY',
    'YYYKKKY',
))
```

Example 1 Return Value

```
(6, 3)
```

Constraints

- The function `battle_tictactoe_scores` will be called at most 20 times.
- $1 \le r, c \le 100$
- The given grid can result in a valid game.

Scoring

- You get 180 ❤️ points if you solve all test cases where:
  - $r, c \ge 4$
- You get 75 ❤️ points if you solve all test cases.

Submit solution [CS 11] Practice 8

Points: 255 (partial)
Time limit: 6.0s
Memory limit: 1G

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Problem type

Allowed languages ~~NONE~~, py3

Clarifications

Report an issue

No clarifications have been made at this time.