[CS 11] Prac 6c – Last Letter, First Letter

Problem Statement

A game of "Last letter, first letter" goes as follows. First, a category is picked—say "food". Then a player starts by naming anything that fits the category, e.g., "pizza". Each subsequent player then has to name something else, but with an extra restriction: its first letter must be the same as the last letter of the previous word!

Two players—Alice and Bob—have started playing the game, with Alice going first, and them taking turns. However, they're not very good at it, so they may have made some mistakes.

Find the number of moves with mistakes each of them made.

Task Details

Your task is to implement a function called `game_mistakes`. This function has a single parameter, a `tuple` of `str`s representing the sequence of words that were used. Note that Alice goes first.

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

- the first is the number of moves with mistakes Alice made.
- the second is the number of moves with mistakes Bob made.

Restrictions

(See 6a 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 **disallowed**.
- Generators and comprehensions are **disallowed**.
- The source code limit is 600.

Example Calls

Example 1 Function Call

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```
game_mistakes((
    'pizza', 'apple', 'egg', 'hazelnut', 'tofu', 'udon', 'nut',
    'tinapay', 'yema', 'edamame', 'eggplant', 'durian',
'nutella',
    'avocado', 'orangutan', 'noodles', 'spaghetti',
'iodizedsalt',
    'toatmeal', 'linguine', 'egg', 'gulaman', 'nut', 'tea',
'uh',
))
```

Example 1 Return Value

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```
(1, 3)
```

Constraints

When your program is run:

- The function `game_mistakes` will be called at most $50{,}000$ times.
- The total number of words across all calls will be at most $150{,}000$.
- The number of words in each call will be at most $150{,}000$.
- Each word is a nonempty string of at most 12 lowercase English letters.

Scoring

- You get 50 ❤️ points if you solve all test cases where :
  - the number of words in each call is ≤ 50.
  - the total number of words across all calls is at most 500.
- You get 100 ❤️ points if you solve all test cases where :
  - the number of words in each call is $\leq 4{,}000$.
  - the total number of words across all calls is at most $8{,}000$.
- You get 25 ❤️ points if you solve all test cases.

Submit solution [CS 11] Practice 6 ❤️

My submissions ❤️

Points: 175 (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.