CSC110 Fall 2022 Assignment 3: Loops, Mutation, and Applications

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November 2, 2022

Part 1: Data Analysis with Toronto Health

Complete this part in the provided `a3_part1.py` file. Do **not** include your solutions in this file.

Part 2: Loops and Mutation Debugging Exercise

1. test_star_wars passed, however, test_legally_blonde and test_transformers failed.

2. For both test_legally_blonde and test_transformers, AssertionError occurs because actual[1] and expected_intensity value is different or not close enough. We're expected to have actual[1] value same or close to expected_intensity. So then, why are we not getting the same value or close to expected_intensity?

   This is caused by two errors in code.

   First error(specifically for function test_legally_blonde):
   test_legally_blonde failed due to the function called "clean_text". This is because text have some capital words! So when it calls "str.lower(text)" in line 83, we're expecting it to convert text to lowercase, so that we're able to find all WORD_TO_INTENSITY(since all WORD_TO_INTENSITY is lowercase, we need to convert text to lowercase). However, str.lower(text) gives copy of lowercase text; it does not make variable text to lowercase. Meaning, we need to assign it to variable text by changing it to: text = str.lower(text). If we make the following change, it will be able to identify all WORD_TO_INTENSITY.

   Second error(specifically for function test_transformers):
   test_transformers failed due to the function called "count_keywords". We're expected to count how many times same keyword occurs and return it. In function count_keywords when word first appears, it add 1 to accumulator. However, when word appears again, there's no code that add additional 1 to accumulator. (Note how there's if statement for adding 1 to accumulator when word first appears, but does not add 1 when it appears again.) We can simply fix this by adding else statement and code that add 1 to accumulator.

   I made changes accordingly.

3. Reason why function test_star_wars passed in original error code is simple. It does not have uppercase words nor have same word appear again; they simply appear once only. Thus, it does not violate two errors that I mentioned above: having uppercase word and repeated keyword. Thus, it passed in original error code.

Part 3: Chaos, Fractals, Point Sequences

Complete this part in the provided `a3_part3.py` starter file. Do **not** include your solutions in this file.