AC50002 Programming Languages for Data Engineering

Python Assignment 1

Daniel Mckinlay (2589383)

Brief description of program.

To solve the problem presented in the assignment, I broke the problem down into the main() function and three other functions. The main function asks the user for the name of the text file to be scored, then reads it all into a list. Then for every index in that list, it calls the “createAbbreviation” function that creates every possible valid abbreviation for that line.

The createAbbreviation works by taking the passed in sentence, removes all special characters in the sentence, generates two random numbers (ensuring the 2nd generated number is always greater than the first so the abbreviation letters are always in order as per the rules) and then finds the letter that is that many characters away from the end of the sentence. Then, if the character isn’t a space it adds it to the abbreviation string. Before these two are added, the first letter of the sentence is added to the string first. It then passes the last two letters of the abbreviation onto the scoreAbbreviation function for each to be scored, gets back the two letters scores and adds them together to get the total score. It then compares the total score to the current lowest score and if it is lower it saves it and the corresponding abbreviation. Finally, it calls the writeToFile function to write the lowest scoring abbreviation and the sentence to a text file.

The scoreAbbreviation function works by figuring out where the letter was positioned in the sentence and then calculating its score based on a series of if statements designed to match the rules given by the assignment. Then it returns the score of the letter passed into it.

The writeToFile function simply takes the lowest scoring abbreviation and the sentence it came from and writes it to a file that follows the naming rules set out by the assignment.

**Link to GitHub**

**https://github.com/AdvCompSciMckinlay/AC5002PythonAssignment2589383**