Lab 9 – File Reading

Goals

- Practice with variables
- Practice with functions
- Practice file reading

Setup

- Create a new .py file in your desired directory
- Use the following naming convention

  `ITP115_l#_lastname_firstname`

  (replace # with this lab number)
- Your new file must begin with comments in the following format *(replace the name and email with your actual information):*

```
# Name
# ITP 115, Fall 2017
# Lab L^ (replace ^ with this lab number)
# USC email
```

Requirements

Your program must perform the following:

- Write a program that has the following functions: **`readDictionaryFile()`**, **`readTextFile()`**, **`findErrors()`**, **`printErrors()`**, and **`main()`**.
- Your goal with this program is to find all the misspelled words in a file and print them to the screen.
- You will be given two text files. One containing a dictionary of words, and the other containing a small passage with misspelled words
- Write the following functions:
  - **`main()`**
    - Ask the user for two needed file names and store them each in a separate variable. The files names will represent the dictionary file containing the complete word list and the text file containing a passage with errors.

- Use the dictionary file name to create a list of the dictionary words using **`readDictionaryFile`**.
- Use the name of the passage file, to create a list of all of the words in the file using **`readTextFile`**.
- Create a list of all of the misspelled words in the passage file with **`findErrors`** using the two lists you've created above.
- Finally, print out the list of misspelled words to the user using **`printErrors`**
- Hint: be sure to store any lists returned from a function in a variable.

o **`readDictionaryFile(dictionaryFileName)`**
- Input (1): the file name of the dictionary
- Return value: the list of all words in the dictionary
- Read in each word of the dictionary file and store it in the dictionary list
- Close the file and return the dictionary list

o **`readTextFile(textFileName)`**
- Input (1): the file name of the text file
- Return value: the list of all words in the text file
- Read in each word of the text file and store it in the text list
- You should strip the words of any punctuation and convert the words to lowercase. Hint, you can use the string method, **`strip()`** to remove characters from the beginning and end of a string.
- Close the file and return the text list

o **`findErrors(dictionaryList, textList)`**
- Input (2): the dictionary list and the text list
- Return value: the list of all errors
- Iterate through the text list and if you find a misspelled word (i.e. a word that does not exist in the dictionary list), add it to the error list
- Return the error list

o **`printErrors(errorList)`**
- Input (1): the error list (list of misspelled words)
- Return value: none
- Print each of the misspelled words out to the user

Sample Output

```
Welcome to the Spell Checker!
Please enter the dictionary file you wish to read in: dictionary.txt
Please enter the text file you wish to read in: passage.txt
The misspelled words from the file are:
saisage
pemcil
ookkz
goid
fyll
moin
awtre
scholls
computre
netwoek
iz
awkling
voilentl
medoicre
twp
wondiws
pengiun
sylophine
doh
```

Deliverables and Submission Instructions

- A compressed folder (zip file) containing you Python code. This can be done by:
    a. Windows *(you must find the folder on your computer—this can't be done within PyCharm):*
        i. Select your lab file
        ii. Right click
        iii. Send to ->
        iv. Compressed (zipped) folder
        v. Rename this folder with the following name:
            ITP115_l#_lastname_firstname
            (replace # with this assignment number)
        vi. Submit this zipped folder through Blackboard

b. OSX *(you must find the folder on your computer—this can't be done within PyCharm)*:
    i. Select your lab file
    ii. Right click
    iii. Compress 1 item
    iv. Rename this folder with the following name:
        `ITP115_l#_lastname_firstname`
        (replace # with this assignment number)
    v. Submit this zipped folder through Blackboard