

CSC 110 – Lab 6

Writing Programs

Names: _____

Introduction

The purpose of this lab is to get more practice writing programs. Note that once you write a function, you can call that function from any other function in the program.

Exercises

- 1) Write a function that takes a string of text and removes any punctuation from the end of it. Note, you can use the `strip()` function with any character. So if you have the following:

```
theString = "This is the string, a very nice string."  
theString = theString.strip(',')
```

the result will be:

```
"This is the string, a very nice string"
```

HINT: Create a list of all of the punctuation characters that you want to remove and then loop through the list removing each one from the string.

The function definition would look like this:

```
def removeExtras(word):  
    # remove all punctuation from the word  
    return word
```

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- 2) Write a function that takes a line of text and returns a list of words that make up the line. You should use the `removeExtras()` function that you wrote above to make sure that you remove any punctuation from the text.

The function definition is as follows:

```
def wordsFromLine(line):  
    # get each word from the line of text  
    # removing any extra characters  
    return wordlist
```

HINT: You can use the `split()` function that we learned about last week to split a line of text using any character.

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- 3) Write a function that reads a text file, one line at a time, and returns a list of all of the words in the file. If a word appears more than once in the file, it should appear that many times in the list.

```
def getWordList():
    # Get the name of the text file from the user
    # Read each line from text file
    # Return list of words from the file
    return wordList
```

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- 4) Write a function that takes a list of words and a specific word and counts how many times the word appears in the list.

The function definition is as follows:

```
def countWord(word, wordlist):
    # Count how many times word appears in wordList
    return wordCount
```

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- 5) Write a main function that uses all of the functions above to read in a text file and print a list of all of the words in the file with a count of how many time each word appears in the file.

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Challenge Problem

Add to the program you wrote above so that it produces a new list of each unique word in the original list along with the corresponding list that indicates how many times each word was in the original list. Then the user should be able to choose to sort the new lists by either the word (alphabetically) or by the number of times the word appeared in the original list.

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