CMPSC-122: Intermediate Programming
Spring 2018

Lab #3

Due Date: 02/02/2018, 11:59PM

Instructions:

- The work in this lab must be completed alone.
- If you need guidance, attend to your recitation class.
- Read the "Submitting assignments to Vocareum" file for instructions on how to submit this lab
- Do not change the function names in your script
- The file name must be LAB3.py (incorrect name files will get a 0 score)
- You are responsible for testing your code. Use `python -i LAB3.py` in your terminal (or command prompt) to provide input to your functions.
- Remove all your testing code before uploading your file. If you are using input() to insert values in your functions and print to see the values, remove them.

Exercise 1 [4 pts]. Write the function *countLetters(letter, text)* that will count the number of times *letter* appears in *text* and **returns** (no prints) the final count. Do NOT use the count method.

EXAMPLE:

```
countLetters('a','example with a')
>>> 2
countLetters('z','I love zuchini bread')
>>> 1
countLetters('s','Mississippi')
>>> 4
```

Exercise 2 [6 pts]. Write a function named *studentGrades(gradeList)* that takes a nested list with the following structure:

- First list is always a descriptive header.
- Subsequent lists hold all the data.
- For lists that hold data, the first element is always a string, the rest of the elements are numbers. Each list (except for the first one) represents the grades of the student and the first element of each list contains the name of the student.

```
grades = [

    ['Student', 'Quiz 1', 'Quiz 2', 'Quiz 3'],# List 1, header
    ['John', 100, 90, 80],
    ['McVay', 88, 99, 111],
    ['Rita', 45, 56, 67],
    ['Ketan', 59, 61, 67],
    ['Saranya', 73, 79, 83],
    ['Min', 89, 97, 101]
]
```

and **<u>returns</u>** (no prints) ONE list with the average score for each student in INTEGER format. **Hint**: Use *append* and slicing. The method *sum* adds all the numeric elements of a list (sum([1,2,8.1]) returns 11.1).

EXAMPLE:

```
grades = [
    ['Student', 'Quiz 1', 'Quiz 2', 'Quiz 3'],
    ['John', 100, 90, 80],
    ['McVay', 88, 99, 111],
    ['Rita', 45, 56, 67],
    ['Ketan', 59, 61, 67],
    ['Saranya', 73, 79, 83],
    ['Min', 89, 97, 101]]

studentGrades(grades)
>>> [90,99,56,62,78,95]
```

100 + 90 + 80 = 270

270 / 3 = 90

```
grades = [
    ['Student', 'Quiz 1', 'Quiz 2', 'Quiz 3','Final' ],
    ['John', 100, 90, 80, 90],
    ['McVay', 88, 99, 11, 15],
    ['Rita', 45, 56, 67, 89],
    ['Ketan', 59, 61, 67, 32],
    ['Saranya', 73, 79, 83, 45],
    ['Min', 89, 97, 101, 100]]

studentGrades(grades)
>>> [90, 53, 64, 54, 70, 96]
```

100 + 90 + 80 + 90 = 360

360 / 4 = 90

```
grades = [
    ['Student', 'Quiz 1', 'Quiz 2'],
    ['John', 100, 90],
    ['McVay', 88, 99],
    ['Min', 89, 97]]

studentGrades(grades)
>>> [95, 93, 93]
```

88 + 99 = 187

187 / 2 = 93.5