Cleveland State University
Electrical Engineering and Computer Science
CIS 260 – Spring 2017 – Nigamanth Sridhar

# CIS 260 – Introduction to Programming
# Spring 2017
# Instructor: Dr. Nigamanth Sridhar

## Programming Assignment 3
***Due at 11.59pm on Tuesday, April 25, 2017***
***Please submit your answers on Blackboard***

### The Problem
This is a two-part assignment that you will complete in order to build a *Movie Review Sentiment Analyzer*. When all the parts of this project are complete, you will be able to take a one-line review of some movie, such as:

```
This film was a breath of fresh air
```

and report that this was a positive review, or one such as:

```
It made me want to poke out my eyeballs
```

and report it as a negative review.

### Part I
You already completed the first step of this project in Closed Lab last week. And that was to take a single word, and look for the number of times it occurs in a file containing movie reviews.

Attached with this assignment is a file called `movieReviews.txt`. This file contains a number of one sentence reviews. Each of these reviews also has a *score* that ranges from 0 (most negative) to 4 (most positive). The score always appears as the first character of each line. For example, here is a positive review:

```
4 If a horror movie 's primary goal is to
frighten and disturb , then They works
spectacularly well ... A shiver-inducing , nerve-
rattling ride .
```

And here is a negative review:

```
0 Comes across as a relic from a bygone era , and
its convolutions ... feel silly rather than
plausible .
```

Given these scores, if a word appears in a line, then the score for the word is the score that the line itself has. For example, the words "relic" and "silly" would have a score of 0 from the line above, while the word "spectacularly" will have the score of 4.

Of course, the same word, depending on the context, may have different scores. So we will average out the score from all occurrences.

***Your Task***

I have provided you with some starter code. This code already reads each line from the file, and prints it out. Your job is to modify this code to do the following:

1. Take from the user as input a single word
2. Count the number of lines of the file in which the word appears
3. Calculate the average score of the word
4. Print out the number of occurrences, and the average score

Here are some sample runs:

```
Please enter the word you are looking for:
darkly
The word darkly appears 4 times
The average score is 2.5

Please enter the word you are looking for:
mechanical
The word mechanical appears 6 times
The average score is 0.6666666666666666

Please enter the word you are looking for:
soulless
The word soulless appears 7 times
The average score is 0.7142857142857143

Please enter the word you are looking for:
entertaining
The word entertaining appears 95 times
The average score is 2.8
```

You can open up the movieReviews.txt in a regular text editor, and verify that your program works correctly.

**Part II**

For this part of the assignment, you are going to complete the second step of this project. You will ask for a one-line review of a movie, and compute the average score of all the words in that review.

***Your Task***

Take the code you wrote for Part I of this assignment, and modify that code to do the following:

1. Refactor the code move the code that computes the score for a single word into its own method, with the following signature:
   ```
   public static double wordScore(String word);
   ```

2. Ask the user for a one-line movie review as input. You can assume that the reviews have to be at most 25 words.

3. Place each word in the one-line review in a String array.

4. Calculate the word score for each word by calling the wordScore method for each element in the array.

5. Calculate the average score of the scores, and print this out.

**Submission Instructions**

- You will write code in a single Java file. Please name the class `Assignment3`.
- Please document your code with comments. Please explain each major action you are performing in your program.
- Please make your code *readable*. Please use the pointers I've given you in class. For example,
  - do not use single letter variable names, instead, name the variables meaningfully
  - use braces and parentheses liberally
  - use proper indentation
- Submit the java program on Blackboard.

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***Grading***

- The program must compile for you to get a non-zero grade.
- The readability of your code is an important contributor to your final grade.
- Please DO NOT CHEAT! I want to see YOUR WORK, not your Google search skills. I take cheating very seriously, and will deal with cheating harshly. Do not risk it!
- This assignment is worth 6% of your final grade.