

## Code Assignment 4

### ArrayList, HashSet & Text Parsing

## CS152 – Computer Programming Fundamentals

Instructor: M. Wolverton

### Items Due

- **Completed Code 4**

### Instructions

Complete the coding directive in an IntelliJ IDEA project with the assignment name (e.g. Code 1-2) and package name cs152. Compress each completed project separately into a .zip file and upload it to your account on the file server at cec-code-lab.aps.edu in a folder named CS152. Code will be downloaded and archived for grading on the assignment due date.

### Directive

Create a program with a JavaFX GUI to calculate statistics on text files and sort them alphabetically. It should contain a 'Browse' button, an area for displaying statistics listed in the technical criteria below, and a 'Save Alphabetical Word List' button which creates a second file with a different name where all words are listed in alphabetical order. A sample Text file is on the web page where this assignment was posted, along with the measured statistics and an alphabetized version so you can check your work.

### Code 4

- Your program must compute the following text statistics and display them with a clear label in the GUI.

• Word Count	• Character Count	• Space count
• Period count	• Comma count	• Total Percentage Vowels
• Shortest Word(s)	• Longest Word(s)	• Average Word Length
- Each statistic should have its own method in your source.
- For shortest and longest words, **report one lowercase copy** of each shortest or longest word.
- For the Alphabetical Word List output, **report only one lowercase copy** of each word.
- When you need to filter repeated entries or matches, add them to a **HashSet** data structure which allows only unique data to be a member. You should convert the HashSet to an **ArrayList** for convenient output by loop.
- Character Count should only include letters, not punctuation, line returns or spaces.
- Vowel percent should be percentage of letters (not including punctuation, spaces, line returns etc.)
- You can count all y's as vowels. (This file contains no y's anyway).