

CS 212 – Fall 2022 – Project 3

Assigned: 31 October 2022
Due: 17 November 2022
Cutoff: 22 November 2022

Use a GUI to open the file and display words

Create another class called *WordGUI* that will be a complete *JFrame* with a menu bar and menus. There should be two menus: one called *File* and another called *List*. The File menu should have the menu items *Open* and *Quit*. The List menu should have five menu items: *A*, *E*, *I*, *O*, *U*.

The content pane of the GUI should have a grid layout of one row and two columns. Clicking on *File > Open* should allow the user to choose a file. That file should be displayed in the left column, with the lines numbered (starting at 1). When the user clicks on *List* a choice can be made of one of the five vowels. Clicking on a vowel should list all the words starting with that vowel in sorted order in the right column. Each word should have the line number on which it appeared.

Create a class to record the word and its line number

Create a class called *WordLine* that will have two instance variables: a *String* for the word, and an *int* for the line number on which the word appears. There should be a two-argument constructor, and error checking with an exception thrown if the line number is less than 1. You may store the *WordLine* objects in either an array or a linked list.

The exception thrown should be an *InvalidWordLineException* which you can create by extending *IllegalArgumentException* as shown in lecture.

Submitting the Project.

Submit all files that are necessary to run the application in a **jar** file called **Project3.jar**. Make sure the jar file contains source code (Java files), not class files. Do not upload individual Java files.

Upload your project to Blackboard by the due date for full credit. Do not send projects by email.