

CPSC 1181 - Lab 7 [55 marks]

Objectives:

- Design a graphical application for determining statistics about a collection of text
- Build a graphical application that contains text areas, labels, buttons, and event listeners.

Submission:

- Zip up all of Java files and submit them to D2L prior to the due date.
- Unzipped submissions or submissions containing .class files will be automatically given ZERO

Exercise 1

Develop a simple tool for calculating some basic statistics about a segment of text. Your finished program should look as similar as possible (or better!) than the sample shown below.

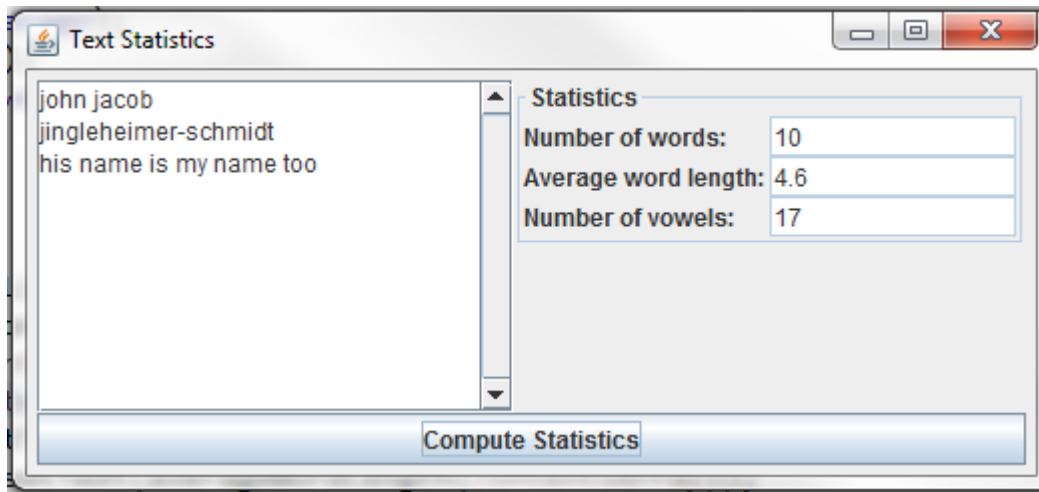
The application should have a single window with a scrolling textbox (see JTextArea) and a statistics box. The statistics box should be a panel with a titled border. This box should contain labeled fields that display the following statistics:

- The number of words in the textbox
- The average word length
- The number of vowels

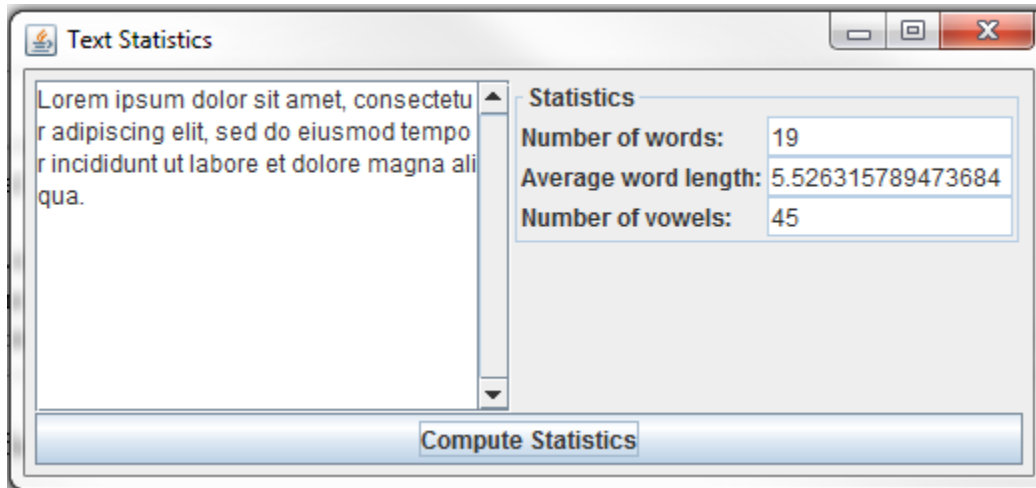
The statistics box should also contain a button. When the button is pressed, your application should re-compute the statistics for the current contents of the text field.

Feel free to display extra statistics than the ones currently shown.

Sample Output:



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Tips:

Remember you can nest panels.

Use layout managers.

You can wrap the text in a JTextArea using the method `setLineWrap(true)`.

To match on non-alphanumeric characters: `"\\W+"`

Do not place all of your code into the constructor and the event listener. Use good OO thinking to break your program into small pieces.

Marking Rubric:

Style, Convention, Documentation [5 marks]

Good OO Class Design [5 marks]

Main class with Frame [4 marks]

+0.5 for setting each usual frame property

+1 for no longer setting frame size, use pack

Appearance [24 marks]

+1 extend JPanel

+5 textArea and scrollPane setup and add

+5 stats panel setup and add

+3 create button, attach listener, add

+3 create and add stats labels

+1 good layout usage to keep same appearance upon resize

+6 creating and adding non-editable output text fields

Functionality [17 marks]

+2 correct event listener creation

+2 getText and parse it

+3 setting the output boxes content

+2 count words

+4 average word length

+4 count vowels