NTOU Java Programming Exercise 6
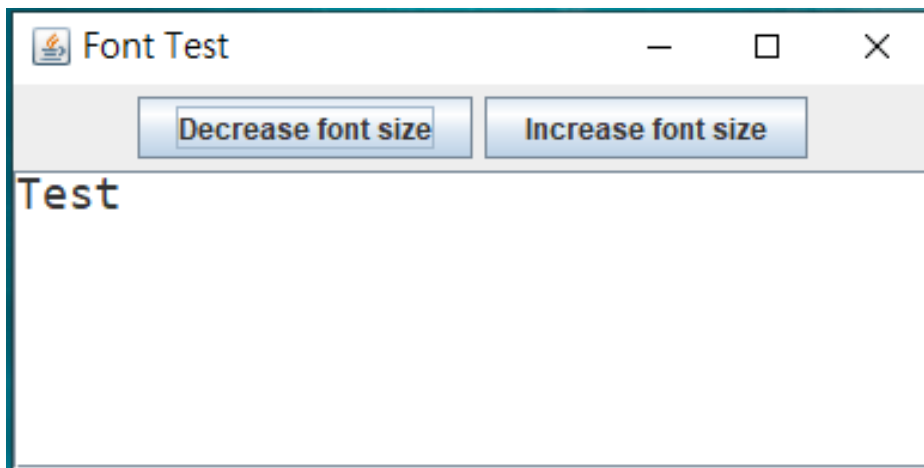
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Spring 2024

Exercise-GUI₁

- Please create a simple GUI for zooming in and out of text:

  - Currently we have partial code for FontFrameV1.java/ FontFrameTestV1.java and FontFrameV2.java/ FontFrameTestV2.java
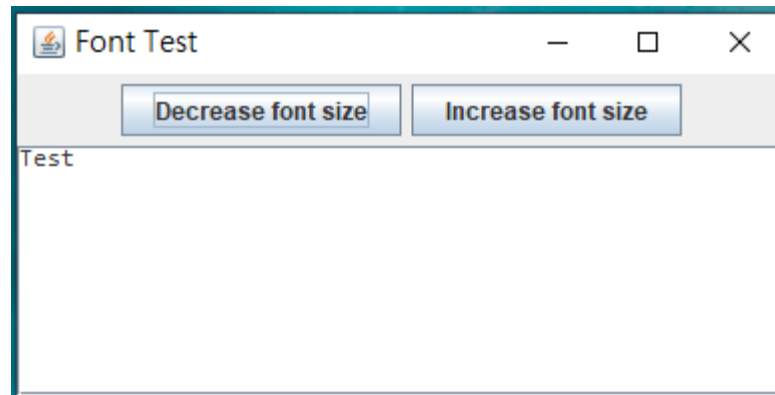
  - The expected user interface is as follows:

- Window Size: 400 x 200
- Default font: Consolas, 20 points
- The text is shown in a JTextArea

Exercise-GUI$_2$

□ When the user clicks [Decrease font size] or [Increase font size], the font will be reduced or enlarged, and 2 points will be subtracted or added.

- ◘ If it is smaller than 8, use JOptionPane to display "No, it cannot be smaller!" and let the size stay at 8.

- ◘ If it is larger than 160, use JOptionPane to display "No, it cannot be larger!", and let the size stay at 160.

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Exercise-GUI$_3$

- There are currently two versions:
  - FontFrameV1.java and FontTestV1.java
    - Based on the concept of **composition** to integrate multiple GUI components.
  - FontFrameV2.java and FontTestV2.java
    - Based on the concept of **inheritance** to create a subclass of JFrame, and set the widget components in the subclass's constructor.
  - In the current code, the part of establishing buttons and event processing has been removed. Please implement these parts to realize the expected functionality.

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Hint

- Please understand how to create components in GUI.

- Please understand how the delegation event model works.

- You need to determine which button the source of the event is to decide whether to enlarge or reduce the font size.

- If the font size is too large or too small, you will need to use *JOptionPane* to display an error message.

- To enlarge or shrink the text, you need to call *setFont()* of *JTextArea*, whose parameter is a *Font* object.

  - https://kodejava.org/how-do-i-set-the-font-and-color-of-jtextarea/

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Submission

- ☐ Note that both versions must be implemented.
- ☐ The naming should conform to the **CamelCase** style.
- ☐ "Package" is required: ntou.cs.java2024.
- ☐ Please submit .java files and .class files (upload them to TronClass).
- ☐ Code that fails to compile or execute is not accepted.

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