

Assignment 1: Notepad Editor UI

The demonstration week for this assignment is the week of March (8-12th), 2021. **No demonstration will result in zero mark.** This lab assessment is worth 30 marks (8% weightage).

Objectives

Build a notepad editor. It will have a basic menu, functional menu system that allows the user to control the appearance of the text in the editor box.

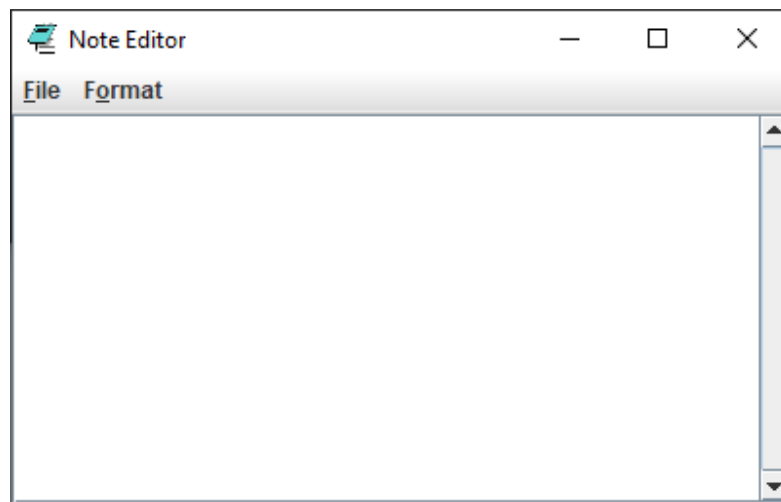
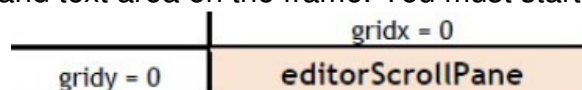


Fig 1: Note Editor on launch.

Tasks Involved

- 1) Place a scroll pane and text area on the frame. You must start with a GridBagLayout:



- 2) Set the properties:
- a) NotepadEditor Frame: title, **resizable**
 - b) editorScrollPane : preferredSize, viewportView, gridx, gridy
 - c) editorAreaText : font, lineWrap, wrapStyleWord

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- 3) Add a menu system, as per the screenshots below:

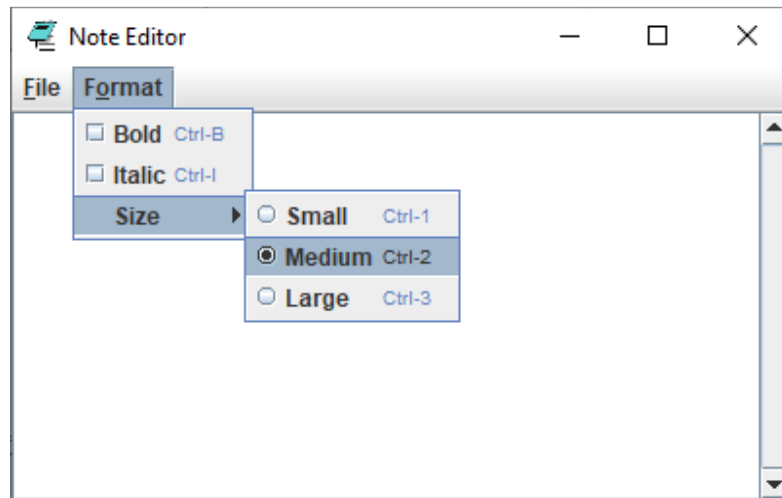


Figure 2: Format menu and Size submenu open.

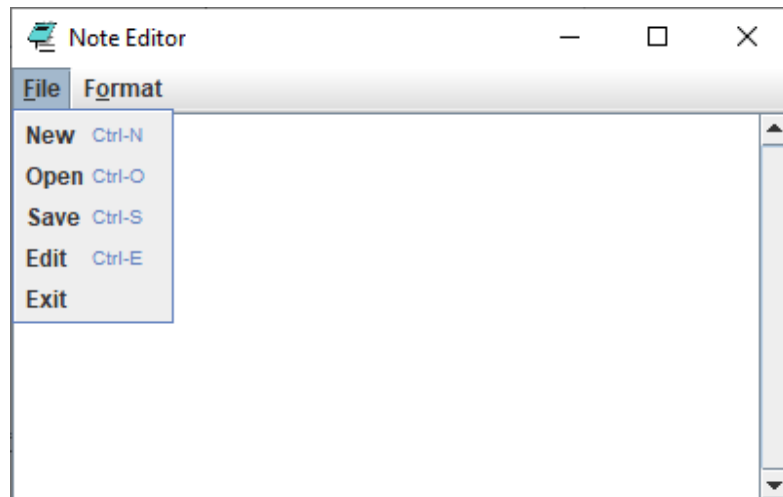


Figure 3: File menu open.

- 4) Name and accelerator keys for the menu bar:

Text	Name	Accelerator
File	fileMenu	N/A
New	newMenuItem	<Ctrl>-N
Open	openMenuItem	<Ctrl>-O
Save	saveMenuItem	<Ctrl>-S
Edit	editMenuItem	<Ctrl>-E
Exit	exitMenuItem	None
Format	formatMenu	N/A
Bold	boldMenuItem (checkbox)	<Ctrl>-B

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Italic	italicMenuItem (checkbox)	<Ctrl>-I
Size	sizeMenu	N/A
Small	smallMenuItem (RadioButton-sizeGroup)	<Ctrl>-1
Medium	mediumMenuItem (RadioButton-sizeGroup)	<Ctrl>-2
Large	largeMenuItem (RadioButton-sizeGroup)	<Ctrl>-3

- 5) Add the listeners and their corresponding code for event methods depending on the selection of the corresponding menu items.

Make sure to set the text area font and size routine based on the 'Format' menu choices.

Goals

To successfully complete this assessment and obtain all the marks, you must:

- Assure that 'Format menu' works in accordance with the checkbox and radio buttons' selection
- Assign an icon to the notePad frame. You may use the image of your choosing.
- Declare that window close button and exit menu option will let the application know when to close
- The window close listener must report something to the console before closing.
- Be able to compile and execute this code from the command line. You will be called upon to do so, so have your command prompt ready during your lab session.
- "New" must erase the contents of the text area.
- The load menu item must open a file chooser to allow the user to select one (and only one) .txt file. It should then load the text file and display its contents in the text area.
- The save menu item must use the file chooser system to permit the user to save the contents as a .txt file, with the name and location of their choosing.

Marking Scheme

Item	Penalty
UI components are not correctly arranged (menus, button groups)	5 marks
TextArea properties are not set appropriately based on menus	5 marks
Accelerators are not working	5 marks
File system not implemented	5 marks
Loaded text files displayed incorrect or saved files malformed.	5 marks
Other specification violations	3 marks
Code violates Java formatting, variable naming conventions, comment headers	2 marks
Missed demonstration	30 marks
Ran in Netbeans, but not from the command line.	5 marks
Code does not compile or crashes	up to 30
Total	____ Out of 30.

14th

Lab Deliverables

- You must submit your .java file in the assigned submission folder on BRS section 300 (activities → Assignments). We don't need your entire project folder, a java file and your image file (you may compress them with .zip, but .zip only) is what we need.
- You will need to demo this code in your lab session, the week of March 8-12th, 2021. During demonstration, you must be able to answer any questions related to the assessment.

Helpful Tips

- There are a few edge cases in the standard assignment; don't wait until the last minute to get started on it.
- Be sure the path to your image is relative, not absolute. It should look in the same directory as the compiled code itself, so no directory specifiers are needed or should be used.
- Errors may be possible. Be sure your code handles those errors and exceptions without crashing. Exceptions may be thrown trying to load files that don't exist, for instance, or trying to read past the end of the text file.
- Your code will be tested against standard UTF-8 plain text files. Be sure to account for line breaks in the original file if required.