

Problem Statement:

You are tasked with creating a simple notepad application using Java AWT components. The application should allow users to perform basic text editing operations such as creating, opening, and saving text files, as well as editing and formatting text content.

Requirements:

1. *User Interface:*

- Create a main window for the notepad application using a `Frame`.
- Add a menu bar with the following menu items: "File" and "Edit".
- Under the "File" menu, include options to "New", "Open", "Save", and "Exit".
- Under the "Edit" menu, include options for "Cut", "Copy", "Paste", and "Select All".

2. *Text Area:*

- Add a `TextArea` component where users can input and edit text.
- Provide horizontal and vertical scroll bars to navigate large text content.

3. *New File:*

- When the "New" option is selected from the "File" menu, clear the text area to create a new empty document.

4. *Open File:*

- When the "Open" option is selected from the "File" menu, display a `FileDialog` to allow users to select and open a text file. Display the file's content in the text area.

5. *Save File:*

- When the "Save" option is selected from the "File" menu, display a `FileDialog` to allow users to specify a location and name to save the current text content.

6. *Exit:*

- When the "Exit" option is selected from the "File" menu, close the application.

7. *Edit Operations:*

- Implement "Cut", "Copy", and "Paste" operations using appropriate menu items and the text area's built-in clipboard functionality.
- Implement a "Select All" option to select all the text in the text area.

8. *Basic Formatting:*

- Add simple formatting options such as changing font family, font size, and font style (bold, italic) to the "Edit" menu.

9. *Keyboard Shortcuts:*

- Assign keyboard shortcuts for common operations, such as Ctrl+N for "New", Ctrl+O for "Open", Ctrl+S for "Save", and so on.

Note: While implementing the application, pay attention to proper error handling, including file handling errors, user interactions, and potential exceptions.