Text Editor in Java

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1. Motivation

As a computer science student, we usually face issues when it comes to writing a code on notepad/text editor because it doesn't allow us to undo/redo multiple times or to find/replace something from the file so we brought a solution by implementing conditions that will help the user to undo/redo multiple times.

2. Overview

Our main idea behind our project is specified below

2.1 Significance of the Project

This project can be used by mostly programmers who used to write code in a text editor. Before, they find it too difficult to search/replace variable name or some code by other. on the other hand, if they want to go back to the previous code, they would not be able to do that. however, using this project, the programmer's goal can be achieved.

2.2 Description of the Project

The project is all about the basic functionality in text editor including copy, cut, paste, undo, redo, find, replace, but not limited to font style, color, new, open, save as, and so on. Technically, a text editor is the lightest and works really fast as compared to different IDE so everyone is able to write code on text editor without having a knowledge of usability.

2.3 Background of the Project

The concept of accessibility and retrieving the data was implemented through this project using different data structures that we have covered in our course.

3. Methodology

We implemented multiple undo/redo using Bilton stack data structure and arrays for finding and replacing the data in a text editor. Our project is divided into 4 different phase as follows

3.1 Design phase

We decided to use linear data structure (Stack) for the main functionality/ problem for the text editor however alternative solution can be another linear data structure (Queue) that can help in undo/redo functionality. On the other hand, we use an array for implementing find/replace and another alternative can be an array list which is

dynamic in nature that can help in adding unlimited data. so the goal can be achieved by using any of these concepts of data structure.

3.2 Implementation phase

We used GUI to design the interface of our text editor in java including buttons, textbox, menu bar, size combo box. After that, we use file handling for creating a new file, open a file from the pc, or save the file on our pc, then we implemented different functionality of our text editor on different buttons and options in our menu bar. We implemented the whole code in Java Net beans 8.2.

3.3 Testing phase

How do you plan to test the implementation of your project? What sections or aspects of the project should be tested? State when and how.
We tested all the functionality of our text editor by entering the valid and invalid data that show proper results and errors. All the functionality that is tested described in evaluation phase

3.4 Evaluation phase

- when we enter text, simple font style including bold, italic, color, font style change is applied to the text box including all the text
- when you click on a new file, a new file will be open, similarly, click on open, you will be able to open the file from your pc, click on save, all the data will be saved in pc, when you exit, the text editor will be close
- when you want to go back to the previous code, click on undo, you will be able to go back to the previous code one or more times and similarly vice versa for the redo.
- when you want to find some word in your text, enter the word and then click on Find, it will highlight the first word with yellow color and if you click on Find all, it will highlight all the words with yellow color. additionally, if you click on replace, it will replace the first word, if you click on replace all, it will replace all the words at once.

4. Features

- **New**
  This option will be used to create a new text file

- **Open**
  This option will be used to open an existing text file from the pc

- **Save**
  This option will be used to save the text file in pc

- **Exit**
  This option will be used to exit the program

- **Copy**

This option will be used to copy the text in a text editor

- **Cut**
  This option will be used to cut text in a text editor

- **Paste**
  This option will be used to paste copied text in a text editor

- **Undo**
  This option will be used to undo text in a text editor

- **Redo**
  This option will be used to redo text

- **Find**
  This option will be used to find the word and highlight it in the file

- **Find all**
  This option will be used to find all the words and highlight them in the file

- **Replace**
  This option will be used to replace the word from another in the file

- **Replace all**
  This option will be used to replace all the same words from another in the file

- **Font size**
  This option will be used to increase or decrease the font size

- **Font Style**
  This option will be used to change the font style of your text

- **Bold**
  This option will be used to bold the text

- **Italic**
  This option will be used to italic the text

- **Text Color**
  This option will be used to change the color of your text.

5. Project Planning

We divide the functionality in the following way

- I handled the text editor interface and then implemented find/replace, find all/replace all, copy, cut, paste, and create a new file
- Laiba implemented font area including color palette, font size, font style, file handling part, including open and save the file, and undo/redo

6. Hardware and Software Requirements

Java Netbeans 8.2.1

## 7. Diagrammatic Representation of the Overall System

A detail diagram of the overall system is needed on a separate (preferably the last) page of this proposal. However, the in-text figures should be provided in the format as given below.
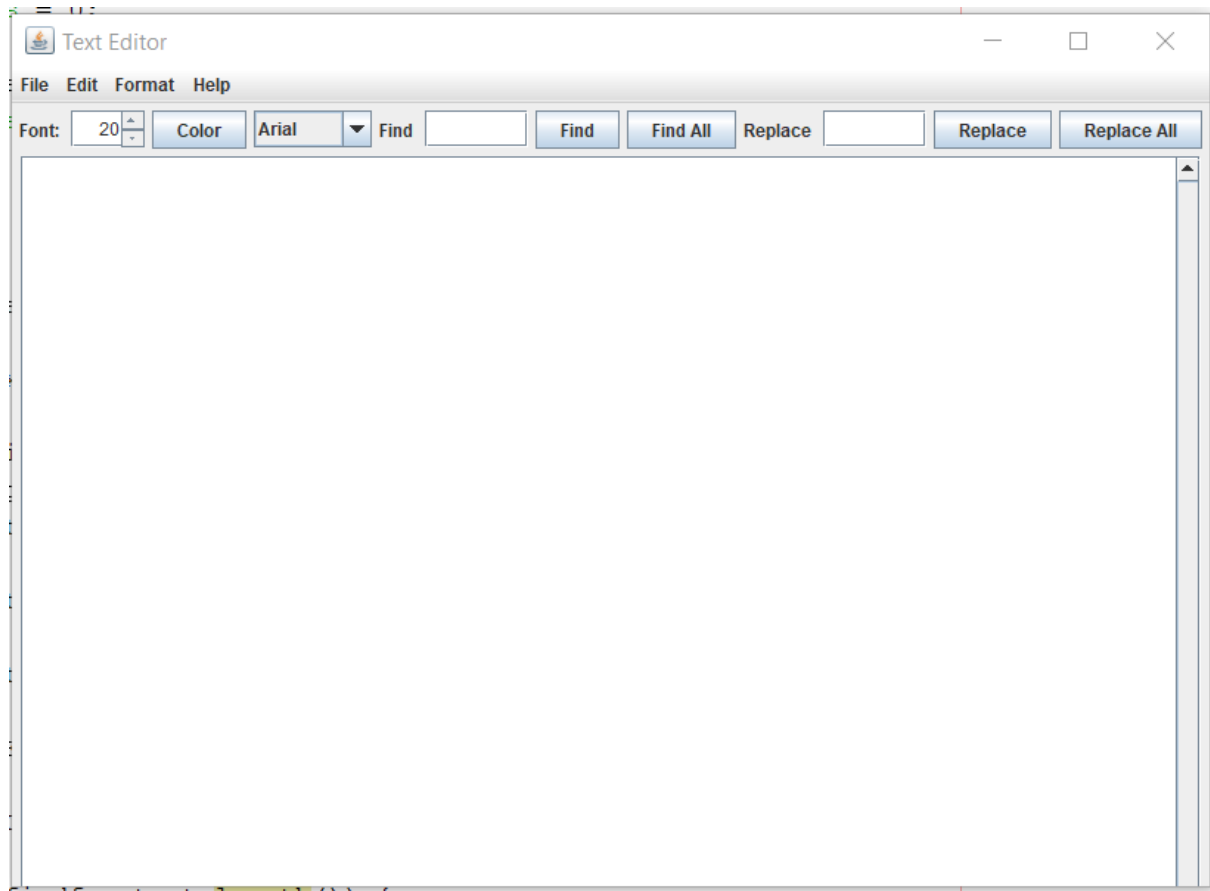

**Figure 1. This is the interface of our text editor that shows all the features**
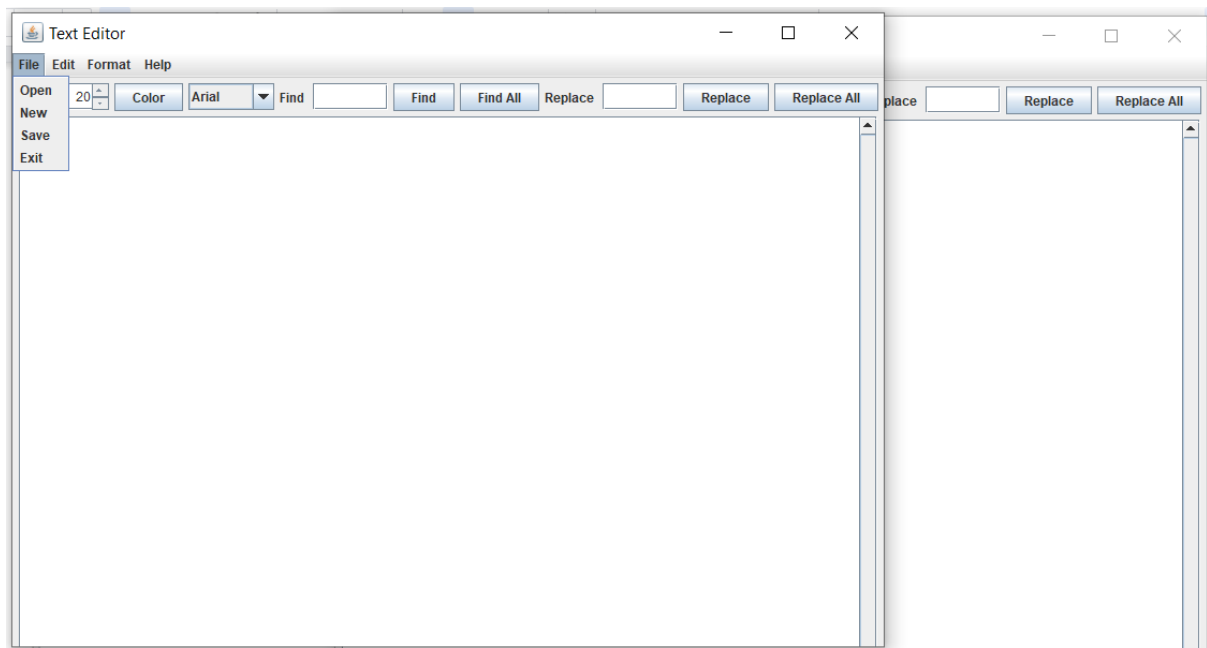
Figure 2. The menu includes operations such as open, new, save, exit, undo/redo, copy, cut paste, bold italic, and help. so if you click on new file, it will open another text editor as shown in the figure above
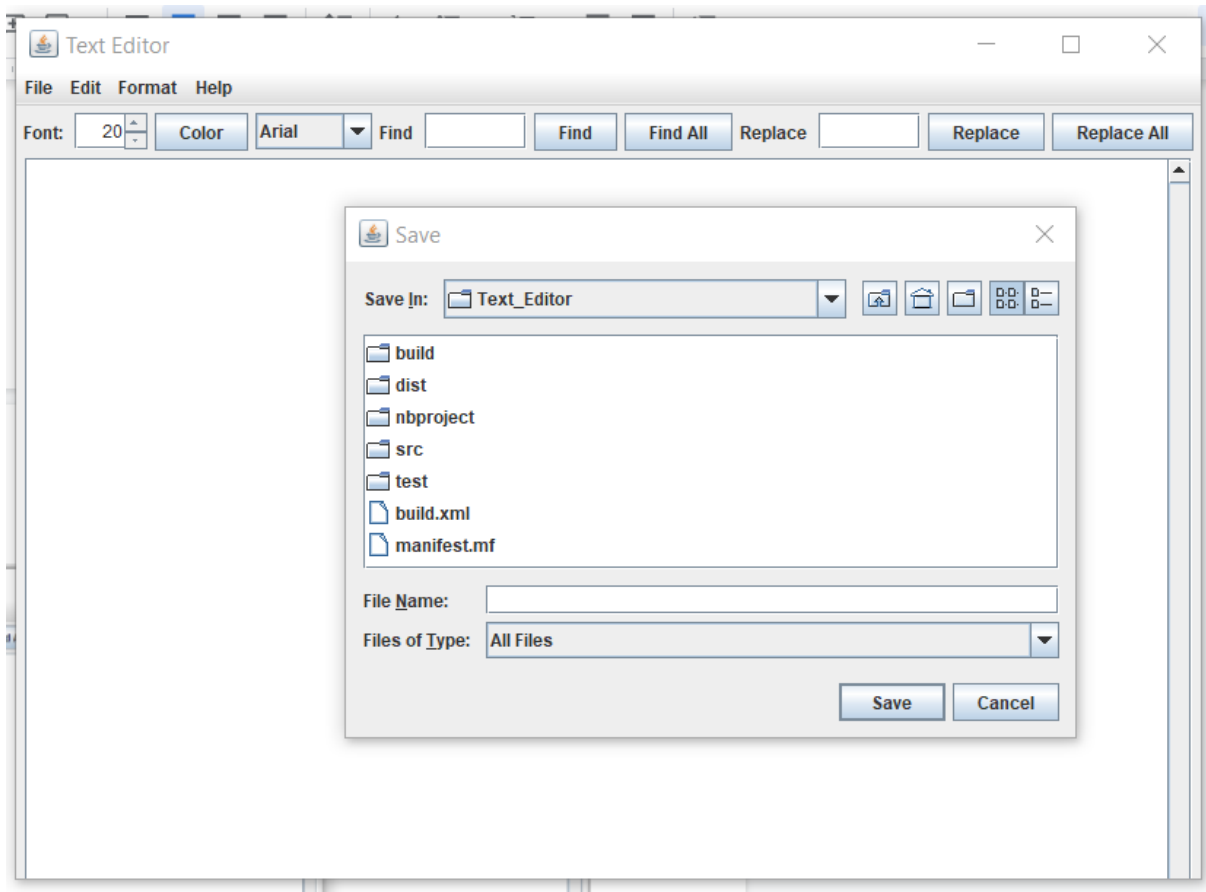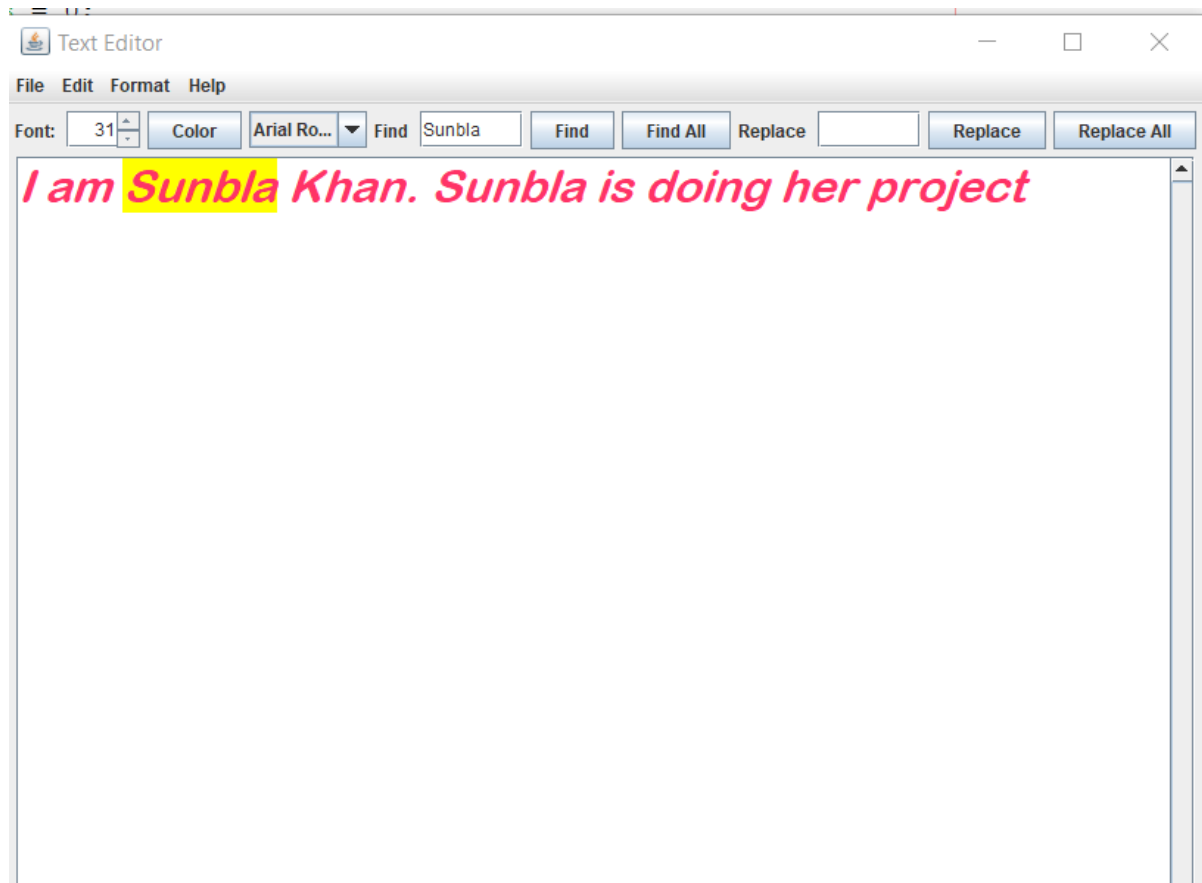

Figure 3. You can save your file using save option, all you need to do is to give a name and then click on save
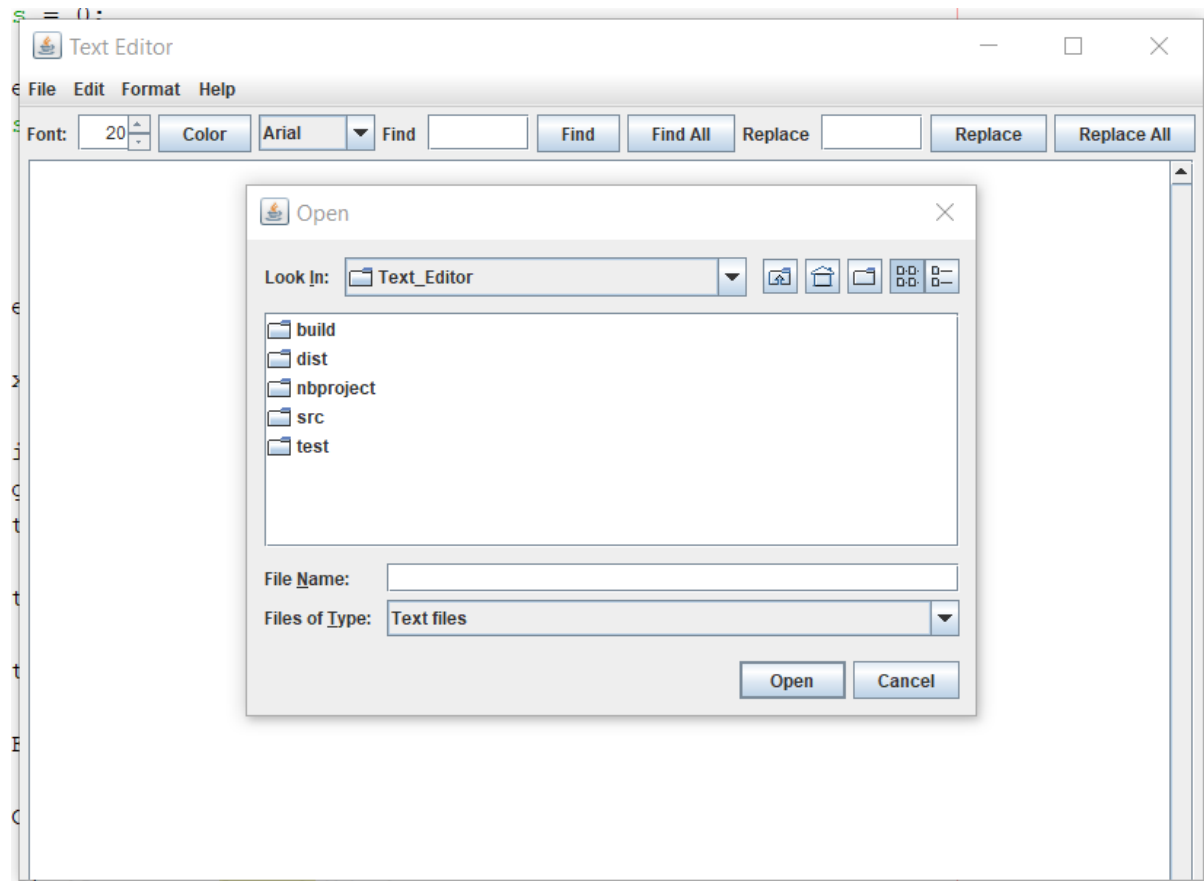
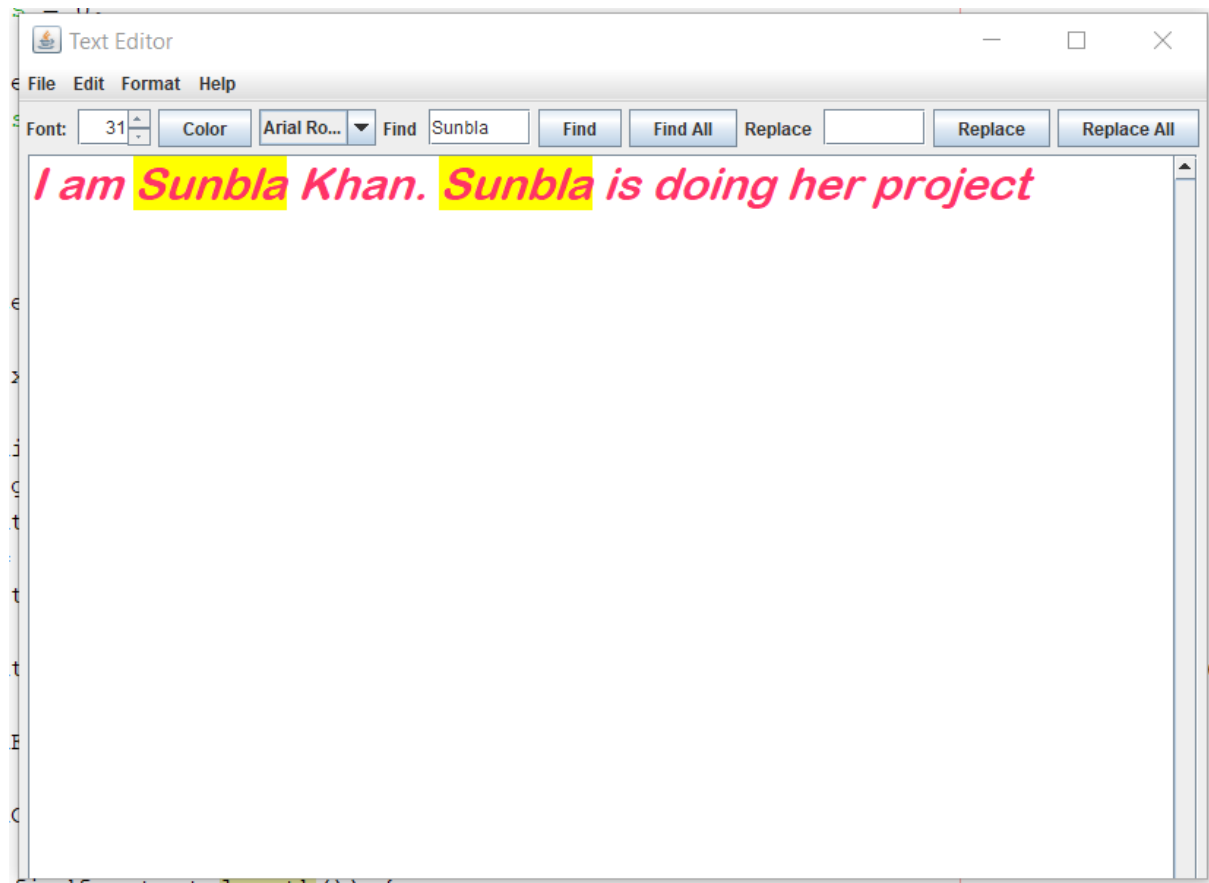**Figure 4. using the open option, you can open any document file from your pc like this**
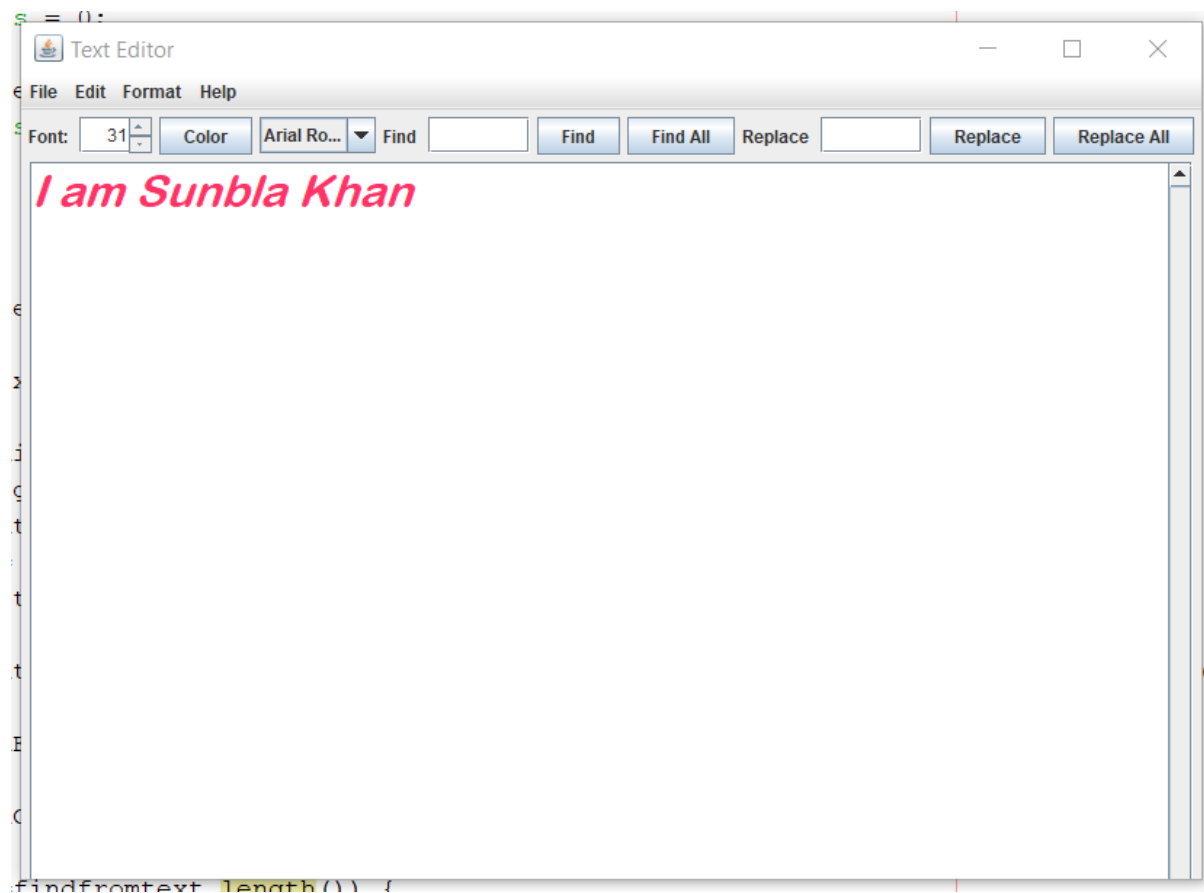
Figure 5. In this figure, I applied basic operations such as bold, italic, font size, color, and font style
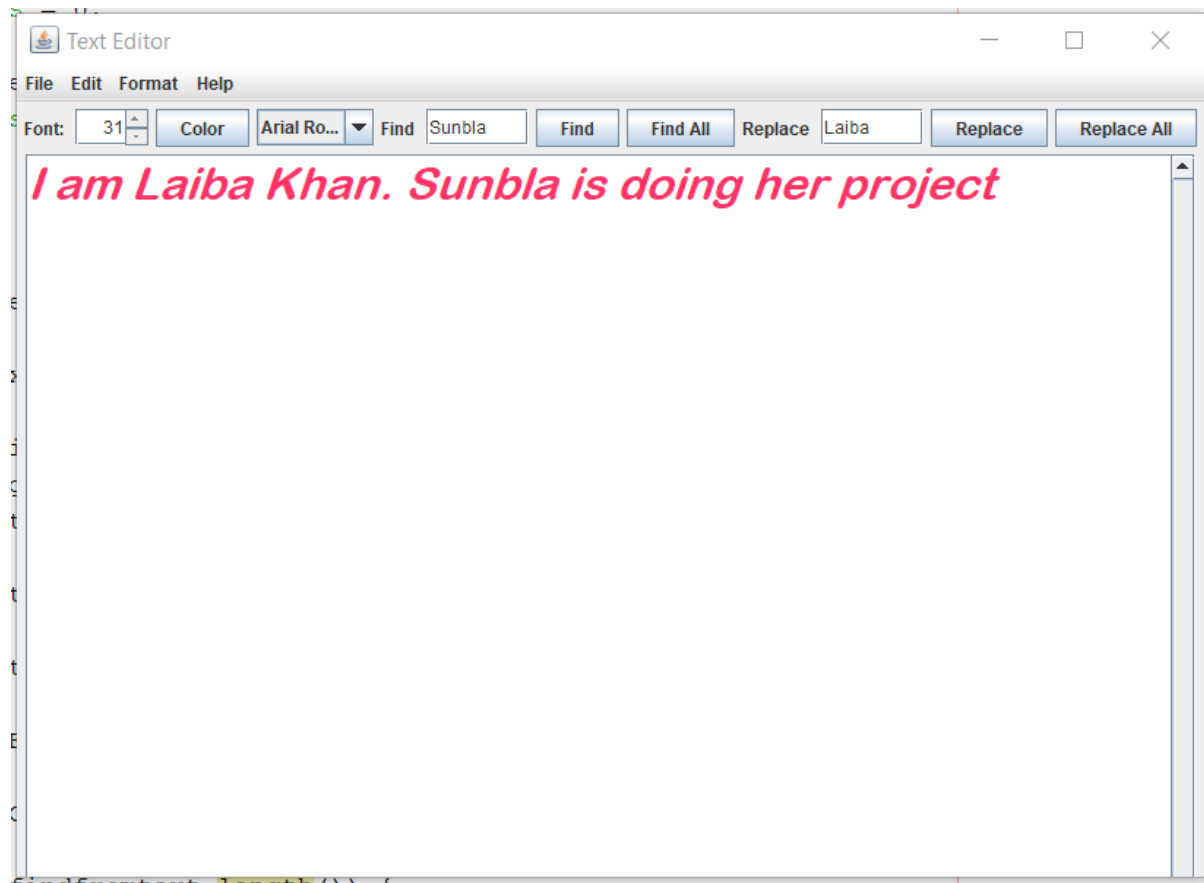
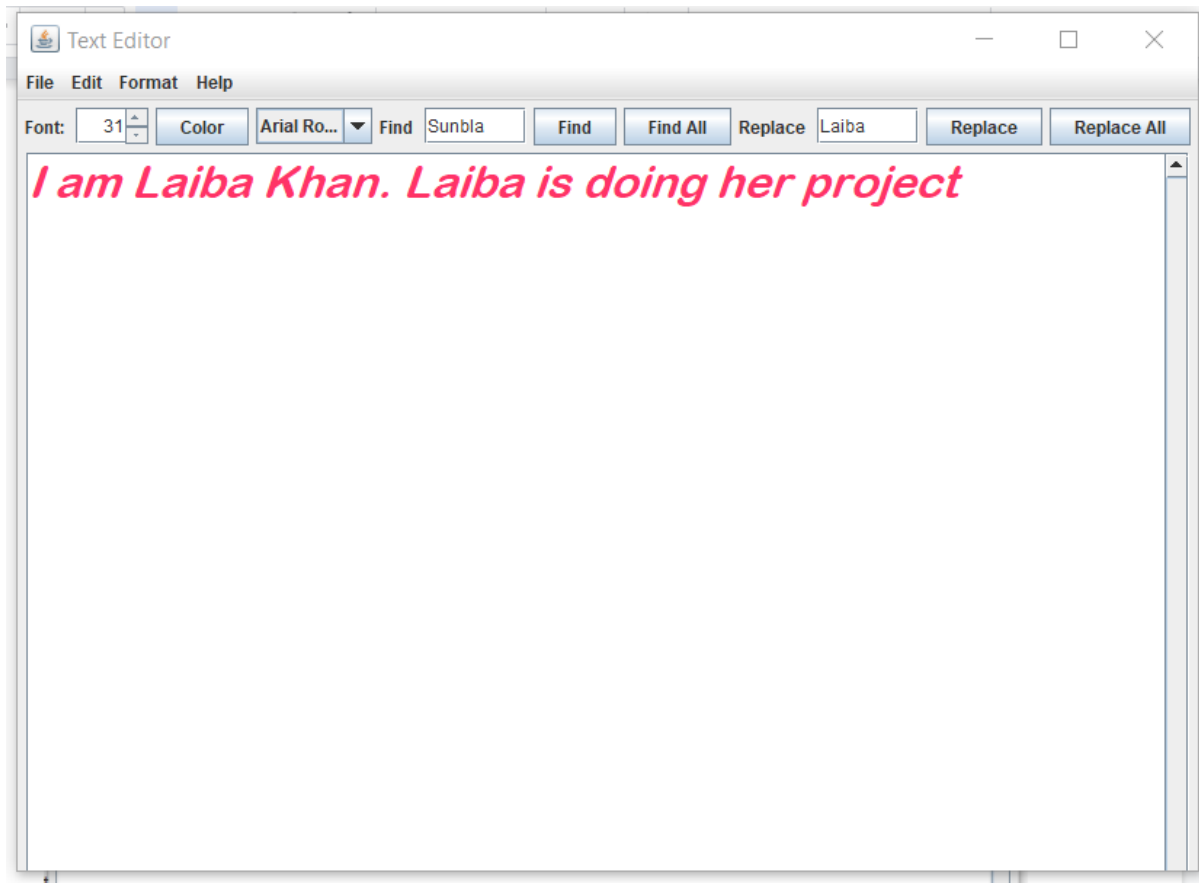**Figure 6. In this picture, I search "Sunbla" and click on Find so it highlighted the first name**

Figure 7. In this picture, I search "Sunbla" and click on Find all so it highlighted all the similar words in the file

Figure 8. In this picture, I search "Sunbla" and then replace it with "Laiba" using replace option so it replaced the first word only

**Figure 9. In this picture, I search "Sunbla" and then replace all the words with "Laiba"
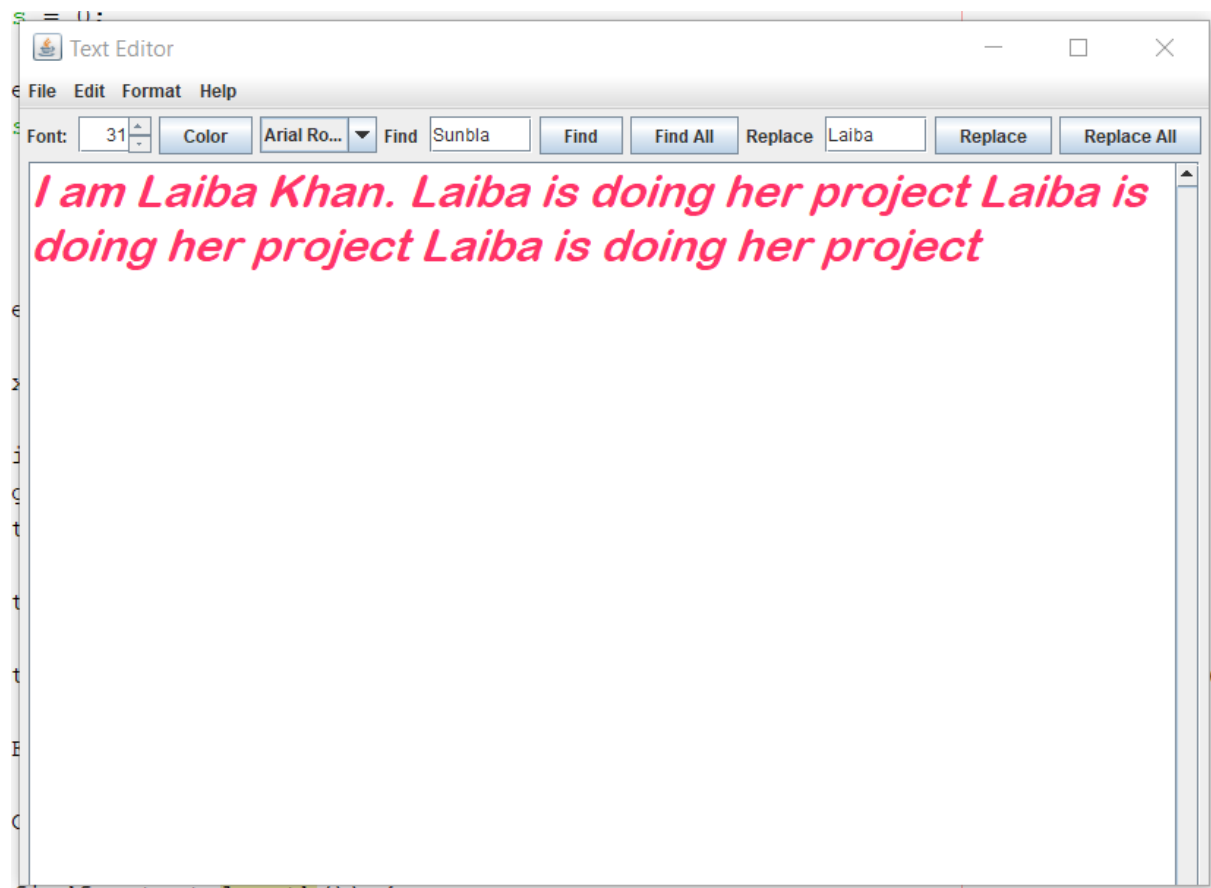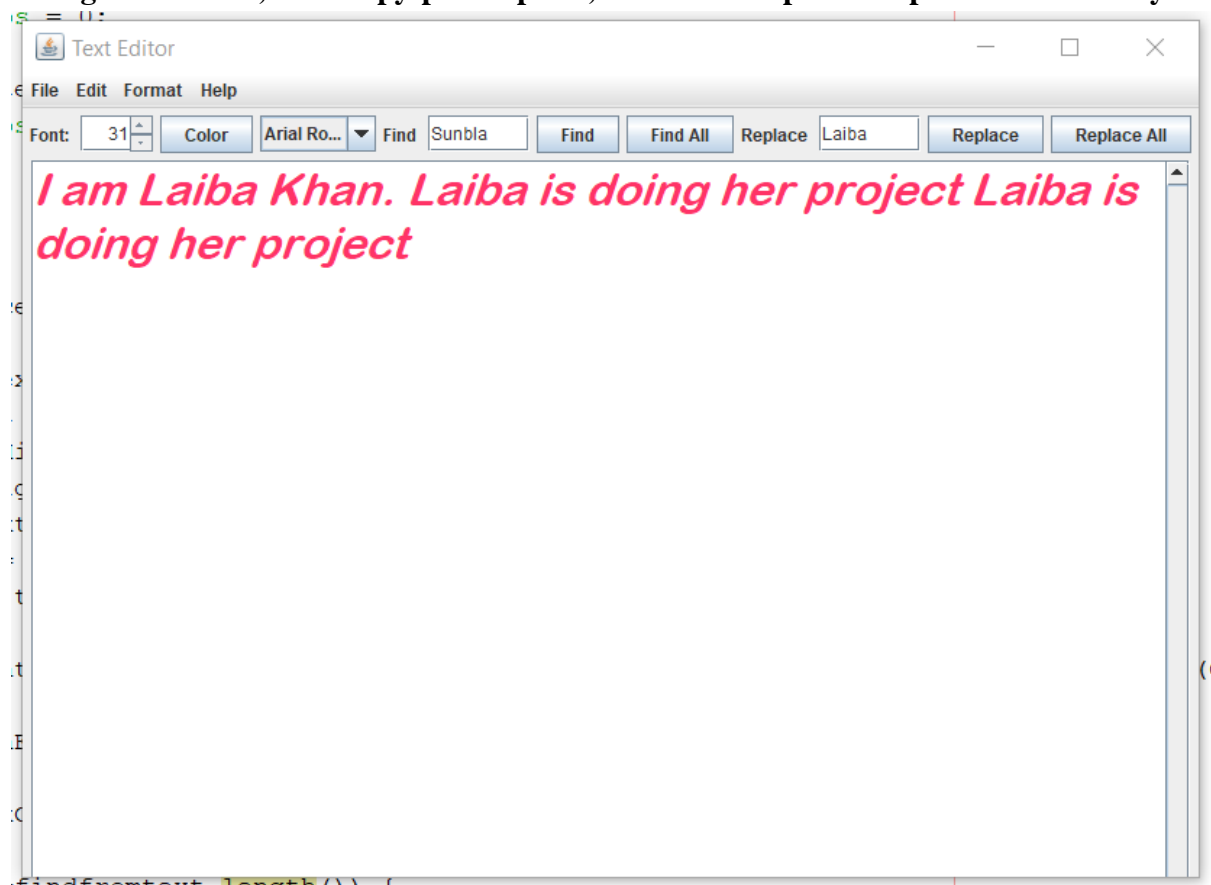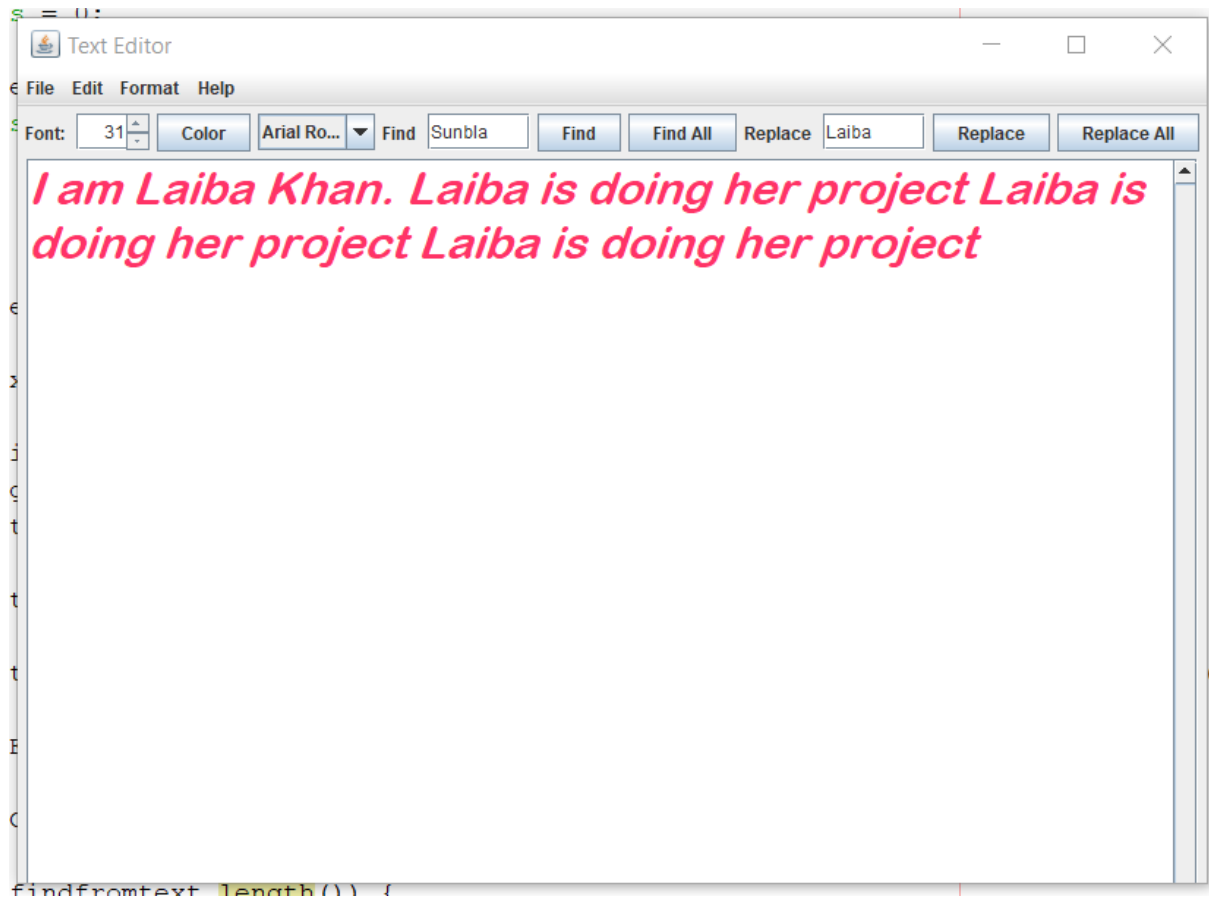using replace all option so it replaced all the similar words**

Figure 10. here, I use copy-paste option, and text is copied and pasted successfully

Figure 11. here, I use the undo option, and text is gone

Figure 12. here, I use the redo and text is back again

8. References

Undo/ Redo https://www.youtube.com/watch?v=bb9BHLip55o