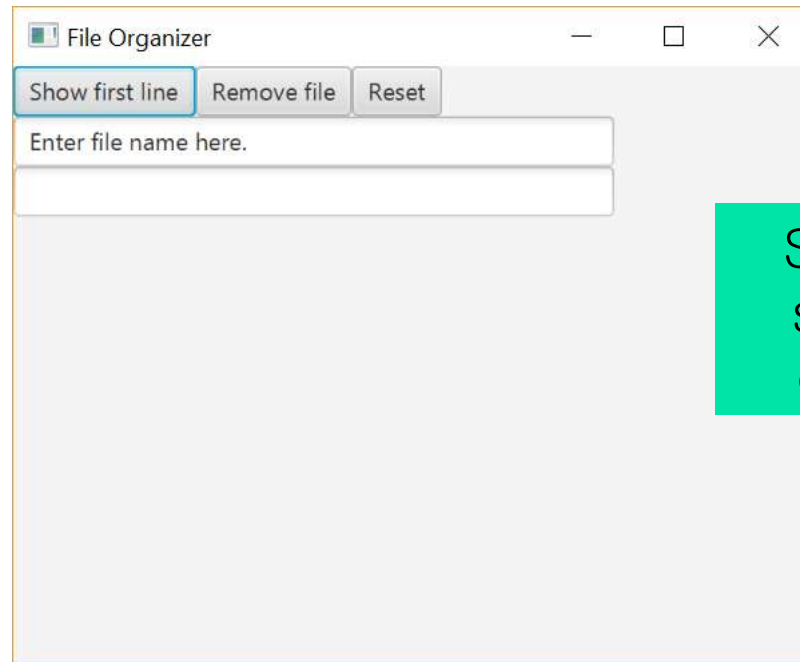# 10.7 (optional) Graphics Supplement

- A JavaFX GUI for Manipulating Files
  - Note buttons
    - Show first line
    - Remove file
    - Reset
  - Note also the text fields
    - Type in a file name
    - Display first line of file

Programming Example

- View JavaFX program, listing 10.14
  class FileOrganizer

Sample screen output

Listing 10.14 A File Organizer GUI

```java
import javafx.application.Application;
import javafx.scene.Scene;
import javafx.stage.Stage;
import javafx.scene.layout.FlowPane;
import javafx.scene.control.TextField;
import javafx.scene.control.Label;
import javafx.scene.control.Button;
import javafx.event.ActionEvent;
import javafx.event.EventHandler;
import java.io.File;
import java.io.FileNotFoundException;
import java.util.Scanner;

public class FileOrganizer extends Application
{
    private TextField fileNameField;
    private TextField firstLineField;

    public static void main(String[] args)
    {
        launch(args);
    }
}
```

```java
@Override
public void start(Stage primaryStage) throws Exception
{
    final int WIDTH = 400;
    final int HEIGHT = 300;
    final int NUMBER_OF_PIXELS = 300;

        FlowPane root = new FlowPane();

        Button showButton = new Button("Show first line");
        root.getChildren().add(showButton);
        showButton.setOnAction(new EventHandler<ActionEvent>()
        {
                @Override
                public void handle(ActionEvent event)
                {
                        showFirstLine();
                }

        }
        );

        Button removeButton = new Button("Remove file");
        root.getChildren().add(removeButton);
        removeButton.setOnAction(new EventHandler<ActionEvent>()
        {
                @Override
                public void handle(ActionEvent event)
                {
                        removeFile();
                }

        }
        );
```

```java
        Button resetButton = new Button("Reset");
        root.getChildren().add(resetButton);
        resetButton.setOnAction(new EventHandler<ActionEvent>()
         {
                @Override
                public void handle(ActionEvent event)
                {
                        resetFields();
                }

         }
        );

        fileNameField = new TextField("Enter file name here.");
        fileNameField.setPrefWidth(NUMBER_OF_PIXELS);
        root.getChildren().add(fileNameField);

        firstLineField = new TextField();
        firstLineField.setPrefWidth(NUMBER_OF_PIXELS);
        root.getChildren().add(firstLineField);

        Scene scene = new Scene(root, WIDTH, HEIGHT);
    primaryStage.setTitle("File Organizer");
    primaryStage.setScene(scene);
    primaryStage.show();
}
```

```java
private void showFirstLine( )
  {
    Scanner fileInput = null;
    String fileName = fileNameField.getText( );
    File fileObject = new File(fileName);

    if (!fileObject.exists( ))
       firstLineField.setText("No such file");
    else if (!fileObject.canRead( ))
       firstLineField.setText("That file is not readable.");
    else
    {
      try
      {
         fileInput = new Scanner(fileObject);
      }
      catch(FileNotFoundException e)
      {
         firstLineField.setText("Error opening the file " +
                         fileName);
      }
      String firstLine = fileInput.nextLine( );
      firstLineField.setText(firstLine);
      fileInput.close( );
    }
  }
```

```java
private void resetFields()
{
    fileNameField.setText("Enter file name here.");
    firstLineField.setText("");
}

private void removeFile( )
{
    Scanner fileInput = null;
    String firstLine;
    String fileName = fileNameField.getText( );
    File fileObject = new File(fileName);

    if (!fileObject.exists( ))
        firstLineField.setText("No such file");
    else if (!fileObject.canWrite( ))
        firstLineField.setText("Permission denied.");
    else
    {
        if (fileObject.delete( ))
            firstLineField.setText("File deleted.");
        else
            firstLineField.setText("Could not delete file.");
    }
}
}
```

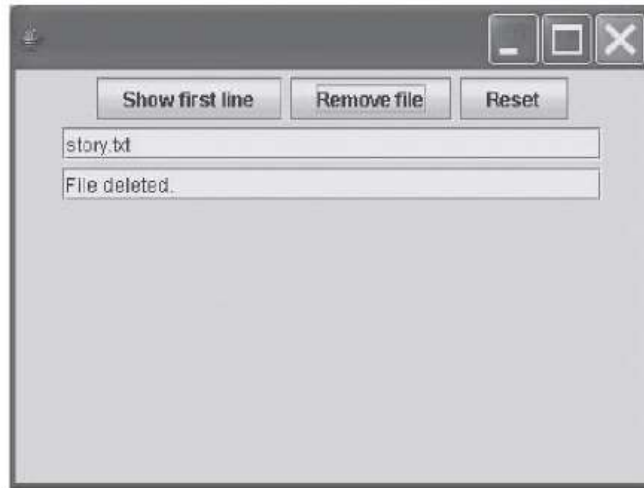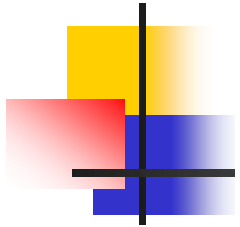**Screen Output Showing GUI's State Initially or After the Reset Button is Clicked**
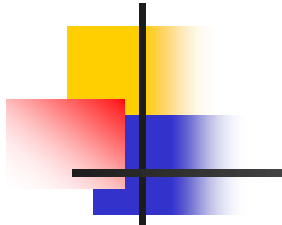
Show first line | Remove file | Reset

Enter file name here.

Screen Output After Entering the File Name and Clicking the Show first line Button

Show first line | Remove file | Reset

story.txt

Once upon a time

Assumes that the first line in the file is as shown

Screen Output After Entering the Remove line Button

Show first line	Remove file	Reset

story.txt

File deleted.

Screen Output After Entering the File Name and Clicking the Show first line Button

Show first line	Remove file	Reset

lovestory.txt

No such file
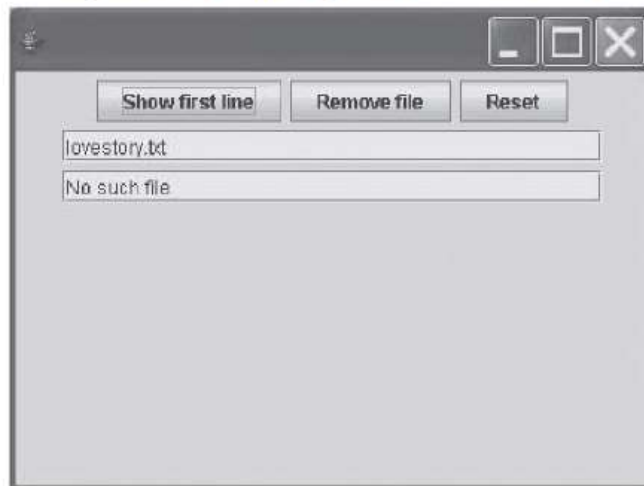
Assumes that the named file does not exist

끝

Listing 10.14 A File Organizer GUI