

Eric Wilson  
CS349 – Java  
Exercise 4 (Due: 20150920)

Part A:

```
import java.io.*;
public class JavaLab4 {
    public static void main(String[] args) throws FileNotFoundException, IOException, ClassNotFoundException {
        int i = -1;
        int j = 5;
        String s = new String ("Boort");
        String t = null;

        try {
            f(i, s); //examines the case where i < 0
        } catch (Exception e) {
            e.printStackTrace();
        }

        try {
            f(j,t); //examines the case where s is null
        } catch (ArithmeticException a){
            a.printStackTrace();
        }
        catch (Exception e) {
            e.printStackTrace();
        }

        try {
            f(j,s); //examines the case where all parameters are correct
        } catch (Exception e) {
            e.printStackTrace();
        }

    }

    public static void f(int i, String s) throws Exception{
        if (i < 0){
            ArithmeticException a = new ArithmeticException("Parameter 'i' less than 0");
            throw a;
        }
        else if (s == null){
            Exception e = new Exception("String 's' cannot be null");
            throw e;
        }
    }
}
```

## Part B

```
/**
 * Created by Eric Wilson on 9/19/2015.
 */
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;
import javax.swing.event.*;

public class PhotoViewer extends JFrame implements ActionListener {

    JButton prev = null;
    JButton next = null;
    int imageNum = 1;
    JTextArea photoNumber = new JTextArea(Integer.toString(imageNum), 1, 2);

    public PhotoViewer() {
        Container contentPane = getContentPane();
        BorderLayout bottomBorderLayout = new BorderLayout();
        BorderLayout infoBorderLayout = new BorderLayout();

        //Create and Populate infoLabel
        JPanel infoLabel = new JPanel(new BorderLayout());
        JLabel descriptionLabel = new JLabel("Description: ");
        JLabel dateLabel = new JLabel("Date:");
        infoLabel.add(descriptionLabel, BorderLayout.NORTH);
        infoLabel.add(dateLabel, BorderLayout.SOUTH);

        //Create and populate infoDisplay
        JPanel infoDisplay = new JPanel(new BorderLayout());
        JTextArea description = new JTextArea("INFO INFO INFO", 3, 1);
        JTextArea dateText = new JTextArea("DATE DATE DATE");
        infoDisplay.add(description, BorderLayout.CENTER);
        infoDisplay.add(dateText, BorderLayout.SOUTH);

        //Create and populate infoPanel
        JPanel infoPanel = new JPanel(new BorderLayout());
        infoPanel.add(infoLabel, BorderLayout.WEST);
        infoPanel.add(infoDisplay, BorderLayout.CENTER);

        //Create and populate ctrlPnl
        JPanel ctrlPanel = new JPanel(new FlowLayout(FlowLayout.LEFT));
        //JTextArea photoNumber = new JTextArea(Integer.toString(imageNum), 1, 2);
        JLabel totalPhotos = new JLabel(" of 5 ");
        prev = new JButton("<Prev");
        prev.addActionListener(this);
        next = new JButton("Next>");
        next.addActionListener(this);
        ctrlPanel.add(photoNumber);
        ctrlPanel.add(totalPhotos);
        ctrlPanel.add(prev);
        ctrlPanel.add(next);

        //Create and populate bottomPanel
        JPanel bottomPanel = new JPanel(new BorderLayout());
        bottomPanel.add(infoPanel, BorderLayout.CENTER);
        bottomPanel.add(ctrlPanel, BorderLayout.SOUTH);

        //Create and populate imgPanel
        JLabel imgLabel = new JLabel("", SwingConstants.CENTER);
        JScrollPane scrollPane = new JScrollPane(imgLabel);

        ImageIcon image = new ImageIcon("C:\\Users\\EW043872\\IdeaProjects\\PhotoViewer\\src\\image.jpg");
        imgLabel.setIcon(image);

        //Add imgPanel and bottomPanel to contentPane
        contentPane.add(scrollPane, BorderLayout.CENTER);
        contentPane.add(bottomPanel, BorderLayout.SOUTH);
    }

    public void actionPerformed(ActionEvent evt){
        if (evt.getSource() == prev){
            if (imageNum <= 1){ //reaches beginning of photoset
                prev.setEnabled(false);
            }
            else { //decrementing counter
                imageNum--;
                photoNumber.setText(Integer.toString(imageNum));
            }
        }
    }
}
```

```

        if (imageNum == 1) {
            prev.setEnabled(false);
        }
    }
    if (imageNum < 5) //enable next button if we're no longer at the end.
        next.setEnabled(true);
}
else if (evt.getSource() == next){
    if(imageNum >= 5){//reaches end of photoset
        next.setEnabled(false);
    }
    else { //incrementing counter
        imageNum++;
        photoNumber.setText(Integer.toString(imageNum));
        if (imageNum == 5){
            next.setEnabled(false);
        }
    }
    if (imageNum > 1) //enable prev button if we're no longer at the beginning
        prev.setEnabled(true);
}
}

public static void main(String[] args){
    JFrame frame = new PhotoViewer();
    frame.addWindowListener(new WindowAdapter() {
        public void windowClosing(WindowEvent e){
            System.exit(0);
        }
    });
    frame.setSize(600, 400);
    frame.setVisible(true);
}
}

```

