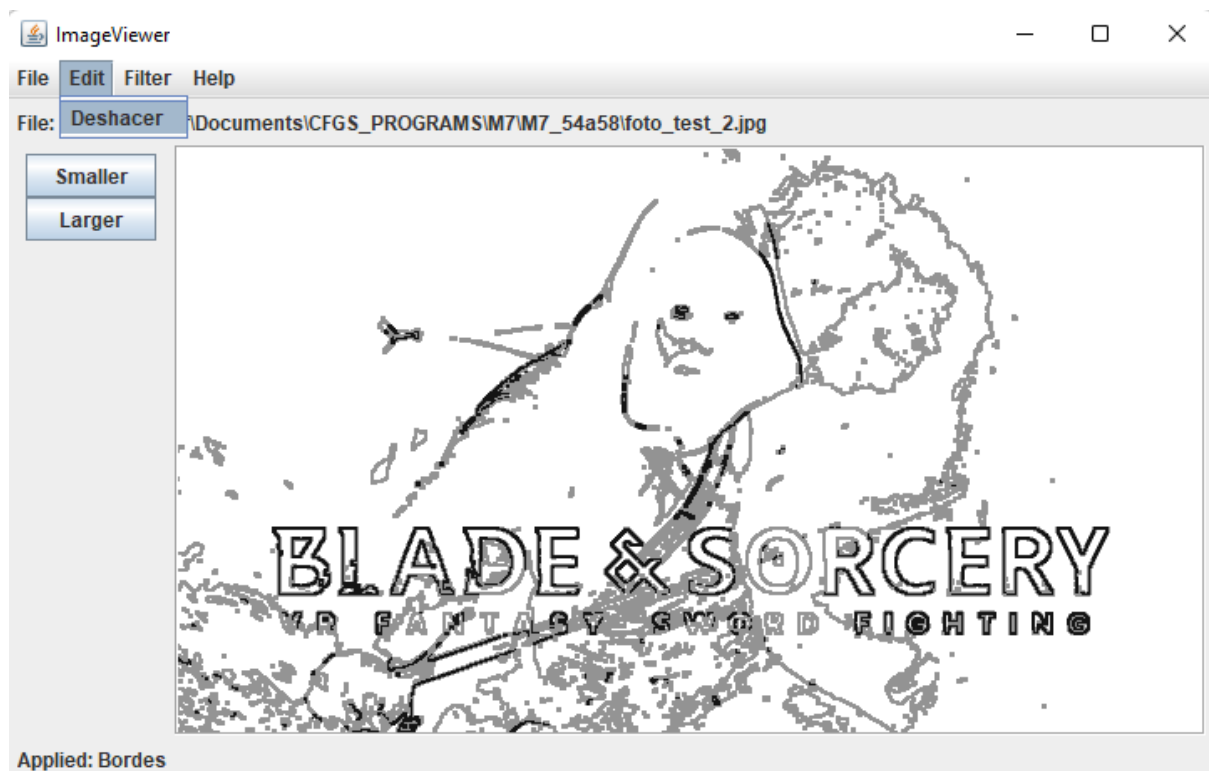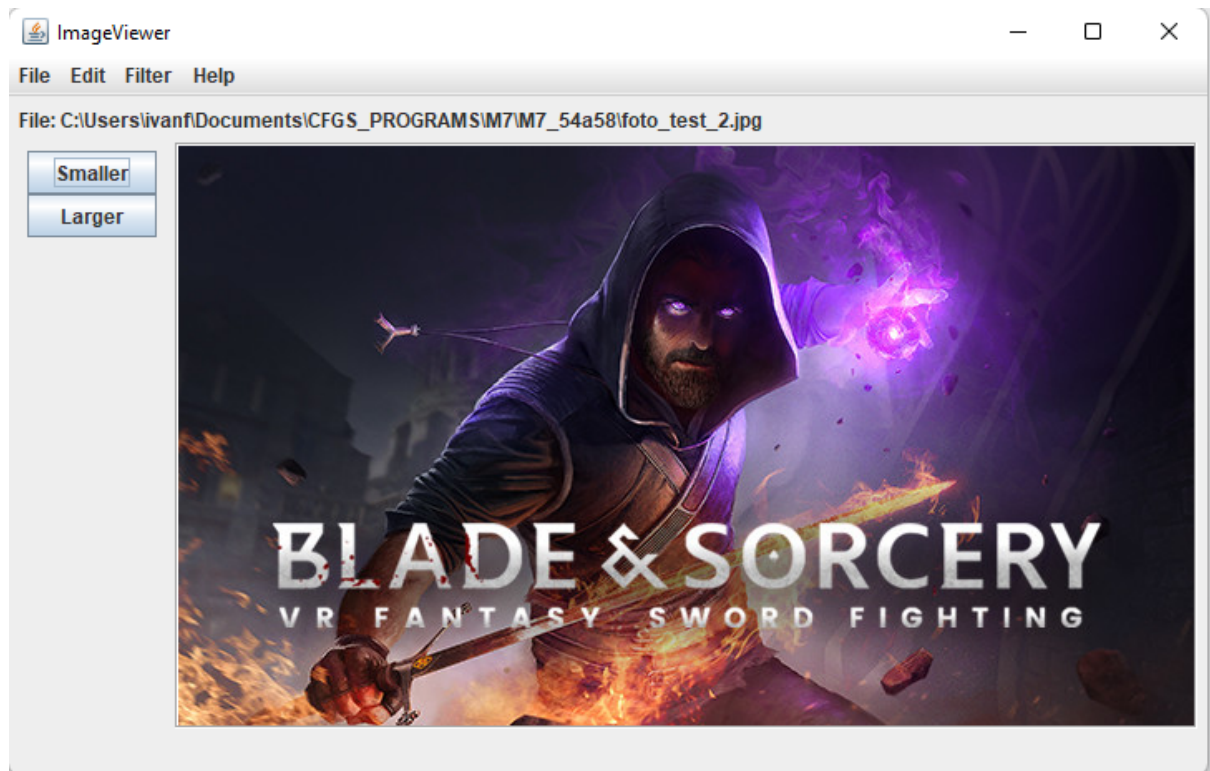Ejercicio 55

```java
// create the Edit menu
menu = new JMenu( s: "Edit");
item = new JMenuItem( text: "Deshacer");
item.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) { deshacer(); }
});
menu.add(item);


menubar.add(menu);
```

```java
private void deshacer() {
    this.currentImage = AdministradorDeArchivos.loadImage(initialImage);
    panelDeImagen.setImage(currentImage);
    etiquetaEstado.setText(" ");
}
```

Ejercicio 56

```java
private void setButtonsEnabled(boolean status)
{
    smallerButton.setEnabled(status);
    largerButton.setEnabled(status);
    jm_filtro.setEnabled(status);
    jm_edit.setEnabled(status);
}
```

```java
private void abrirArchivo() {
    int returnVal = fileChooser.showOpenDialog(ventana);

    if(returnVal != JFileChooser.APPROVE_OPTION) {
        return;  // cancelled
    }
    initialImage = fileChooser.getSelectedFile();
    currentImage = AdministradorDeArchivos.loadImage(initialImage);

    if(currentImage == null) {   // image file was not a valid image
        JOptionPane.showMessageDialog(ventana,
                message: "The file was not in a recognized image file format.",
                title: "Image Load Error",
                JOptionPane.ERROR_MESSAGE);
        return;
    }

    panelDeImagen.setImage(currentImage);
    showFilename(initialImage.getPath());
    showStatus( text: "File loaded.");
    setButtonsEnabled(true);
    ventana.pack();
}
```
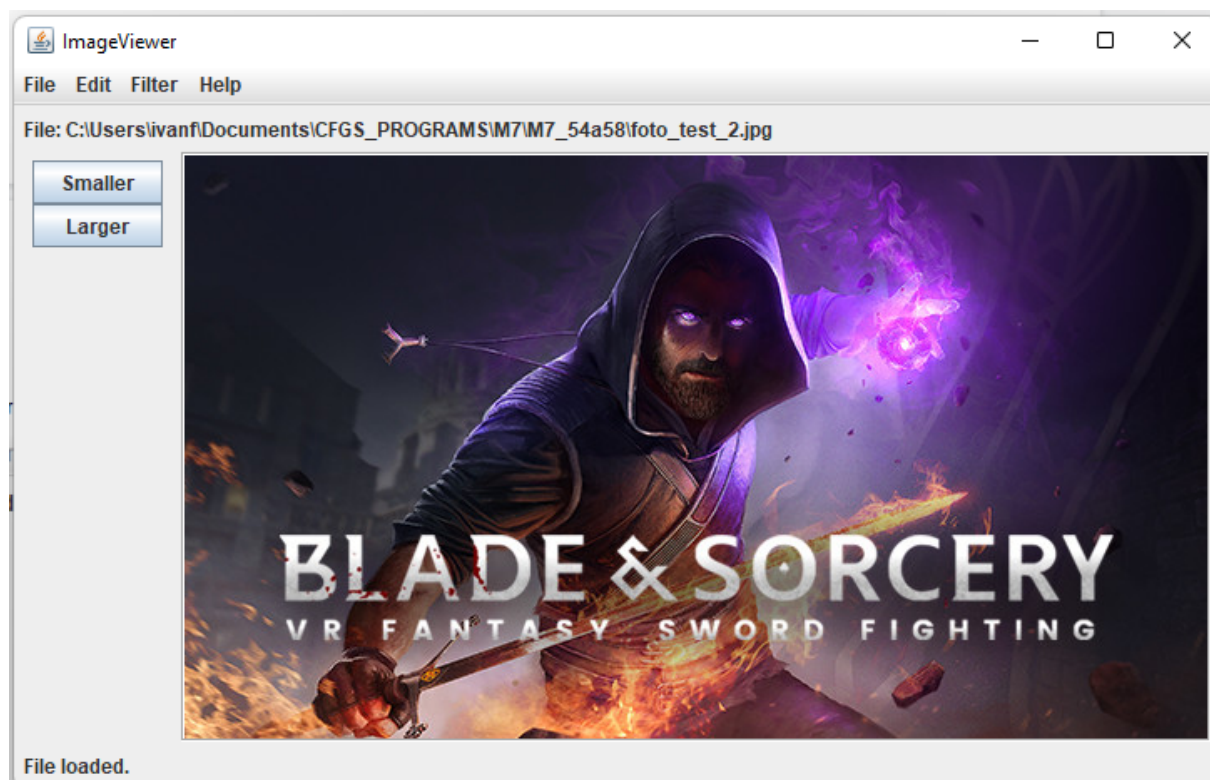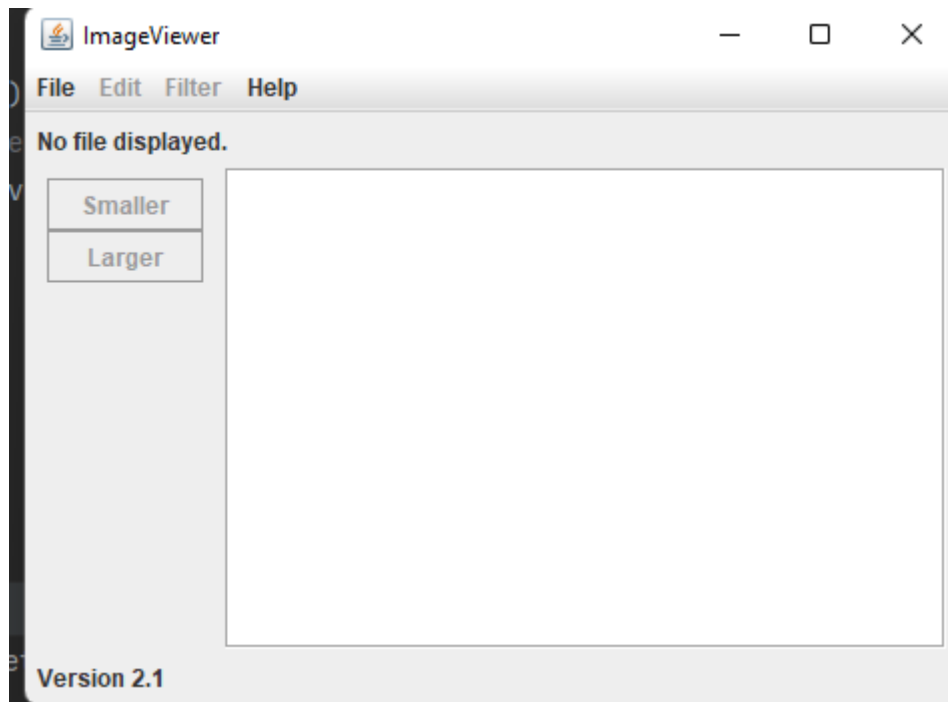
```java
private void close()
{
    setButtonsEnabled(false);
    currentImage = null;
    panelDeImagen.clearImage();
    showFilename(null);
}
```

Ejercicio 57

```java
item = new JMenuItem( text: "Deshacer todo");
item.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) { deshacerTodos(); }
});
jm_ajustar.add(item);
```


Ejercicio 58

```java
public static BufferedImage rotateImage(BufferedImage imageToRotate) {
    int widthOfImage = imageToRotate.getWidth();
    int heightOfImage = imageToRotate.getHeight();
    int typeOfImage = imageToRotate.getType();

    BufferedImage newImageFromBuffer = new BufferedImage(widthOfImage, heightOfImage, typeOfImage);

    Graphics2D graphics2D = newImageFromBuffer.createGraphics();

    graphics2D.rotate(Math.toRadians(90), x: widthOfImage / 2, y: heightOfImage / 2);
    graphics2D.drawImage(imageToRotate, op: null, x: 0, y: 0);

    return newImageFromBuffer;
}
```

ImageViewer

File   Edit   Filter   Ajustar   Help

Rotar

File: C:\Users\ivan   nts\CFGS_PROGRAMS\M7\M7_54a58\foto_test_2.jpg

Smaller
Larger

File loaded.

ImageViewer

File   Edit   Filter   Ajustar   Help

File: C:\Users\ivanf\Documents\CFGS_PROGRAMS\M7\M7_54a58\foto_test_2.jpg

Smaller
Larger

File loaded.