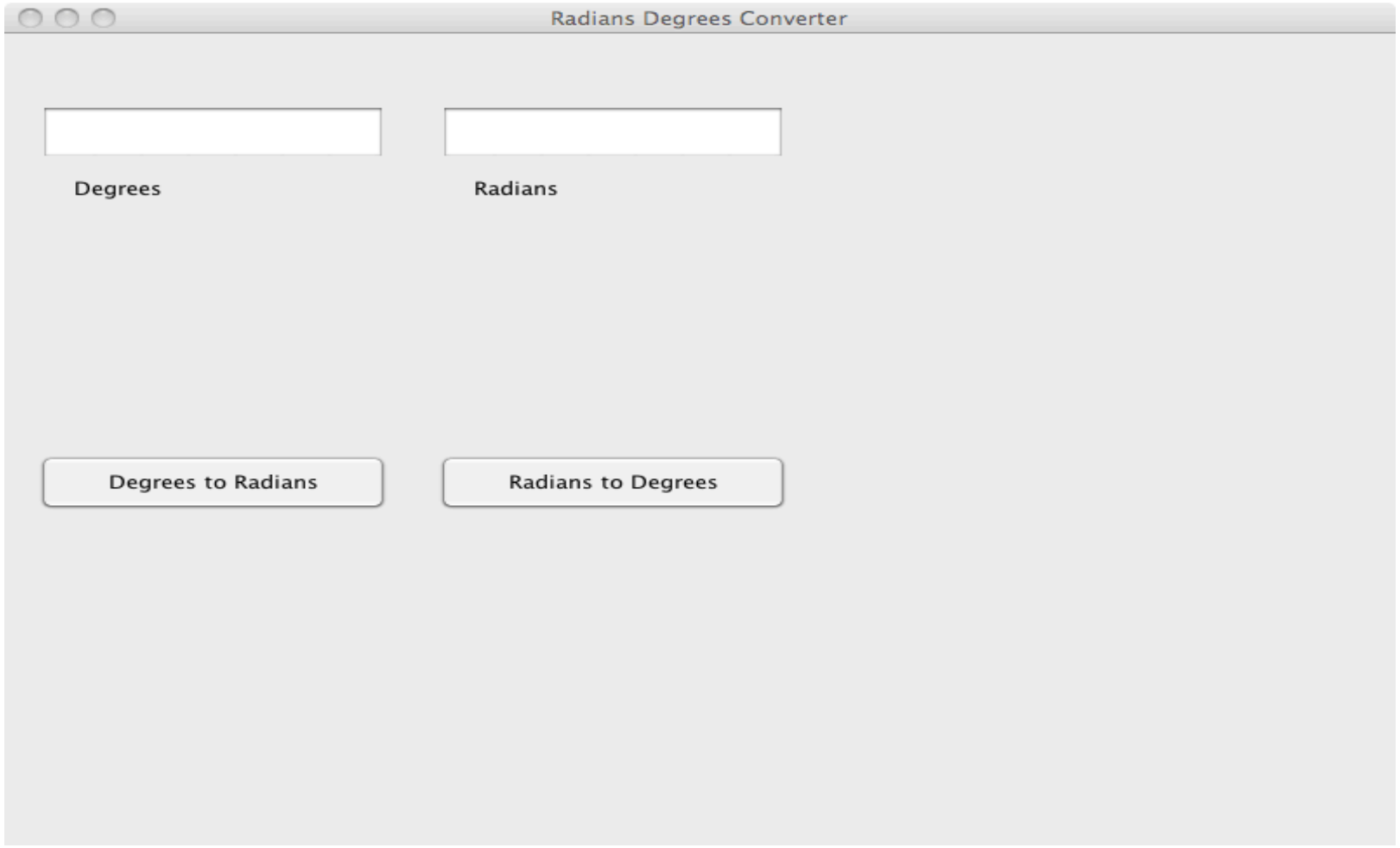
RadiansDegreesConverter



RadiansDegreesConverter

```
import javax.swing.*;
import java.awt.*;
import java.awt.event.*;
import java.text.*;

public class RadiansDegreesConverter  {

    private JFrame window;
    private DegreesToRadiansButton dToR;
    private RadiansToDegreesButton rToD;
    private JTextField degrees;
    private JLabel degreesTitle;
    private JTextField radians;
    private JLabel radiansTitle;
```

RadiansDegreesConverter

```
public RadiansDegreesConverter() {
      SEE LATER SLIDES
}

private String makeDoubleLabel(double f) {
      DecimalFormat format = new DecimalFormat("#.00000");
      return format.format(f);
}

public double getDegrees() {
      return new Double(degrees.getText());
 }
```

RadiansDegreesConverter

```
 public void setDegrees(double d) {
        degrees.setText(makeDoubleLabel(d));
    }

    public double getRadians() {
        return new Double(radians.getText());
    }

    public void setRadians(double d) {
        radians.setText(makeDoubleLabel(d));
    }

}
```

RadiansToDegreesButton

```
import javax.swing.*;
import java.awt.*;
import java.awt.event.*;

public class RadiansToDegreesButton extends JButton implements ActionListener {
   RadiansDegreesConverter controller;

   public RadiansToDegreesButton(RadiansDegreesConverter c)  {
      setText("Radians to Degrees");
      controller = c;
   }

   public void actionPerformed(ActionEvent e) {
      double d;
      double r;
      r = controller.getRadians();
      d = r*180.0/Math.PI;
      controller.setDegrees(d);
   }
}
```

DegreesToRadiansButton

```
import javax.swing.*;
import java.awt.*;
import java.awt.event.*;

public class DegreesToRadiansButton extends JButton implements ActionListener {
   RadiansDegreesConverter controller;

   public DegreesToRadiansButton(RadiansDegreesConverter c)  {
      setText("Degrees to Radians");
      controller = c;
   }

   public void actionPerformed(ActionEvent e) {
      double d;
      double r;
      d = controller.getDegrees();
      r = d*Math.PI/180.0;
      controller.setRadians(r);
   }
}
```

RadiansDegreesConverter constructor

```
window = new JFrame("Radians Degrees Converter");
window.setBounds(100, 200, 800, 600);
window.getContentPane().setLayout(null);
window.setVisible(true);

degrees = new JTextField();
degrees.setBounds(20, 50, 200, 40);
degrees.setBackground(Color.white);
window.add(degrees);

degreesTitle = new JLabel("Degrees");
degreesTitle.setBounds(40, 90, 200, 40);
degreesTitle.setForeground(Color.black);
window.add(degreesTitle);
```

RadiansDegreesConverter constructor (continued)

```
radians = new JTextField();
radians.setBounds(250, 50, 200, 40);
radians.setBackground(Color.white);
window.add(radians);

radiansTitle = new JLabel("Radians");
radiansTitle.setBounds(270, 90, 200, 40);
radiansTitle.setForeground(Color.black);
window.add(radiansTitle);
```

RadiansDegreesConverter constructor (continued)

```
dToR = new DegreesToRadiansButton(this);
dToR.setBounds(20, 300, 200, 40);
dToR.addActionListener(dToR);
window.add(dToR);

rToD = new RadiansToDegreesButton(this);
rToD.setBounds(250, 300, 200, 40);
rToD.addActionListener(rToD);
window.add(rToD);

window.repaint();
```