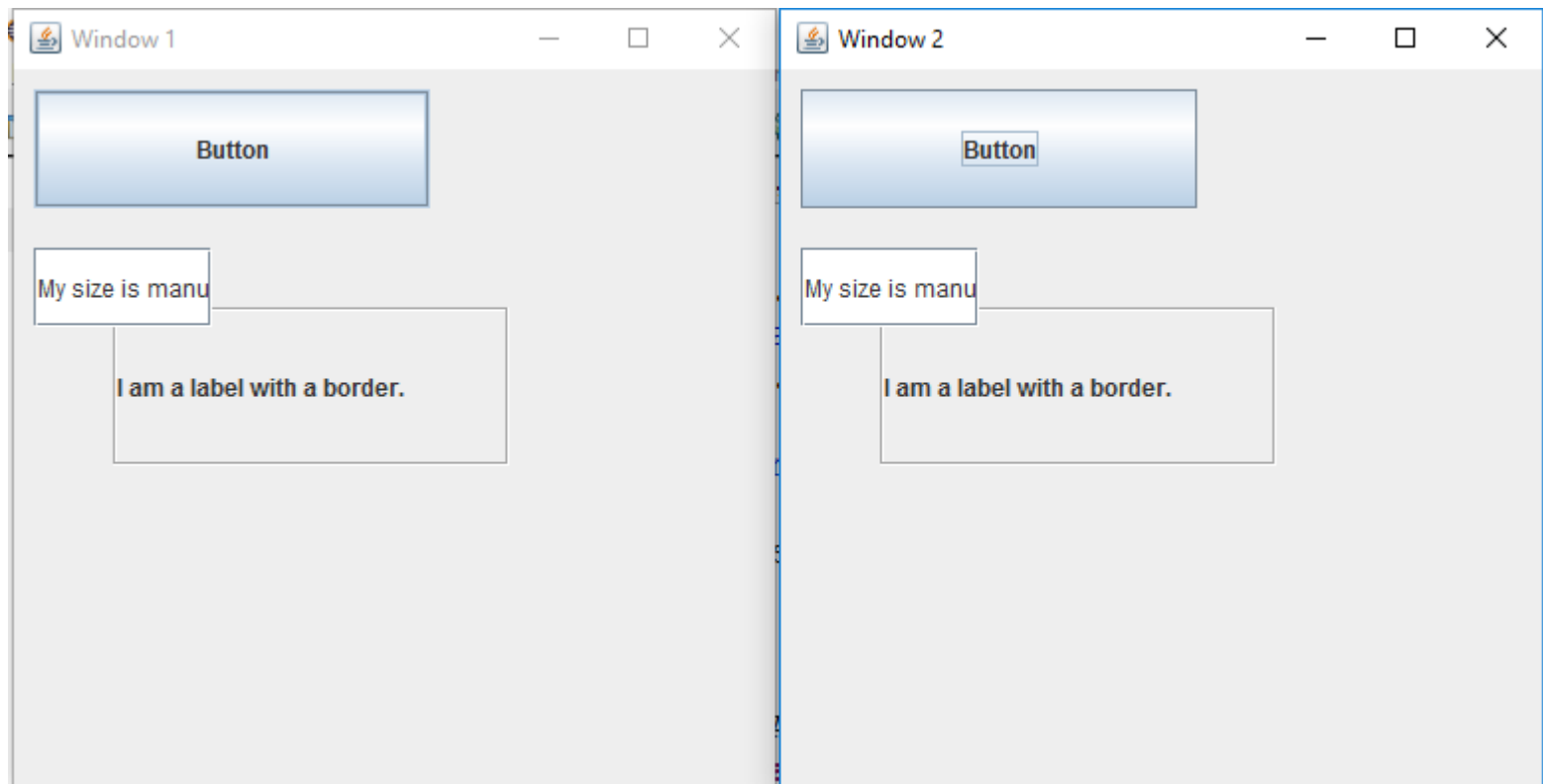# CS 102
Object Oriented Programming

Extending GUI

Reyyan Yeniterzi

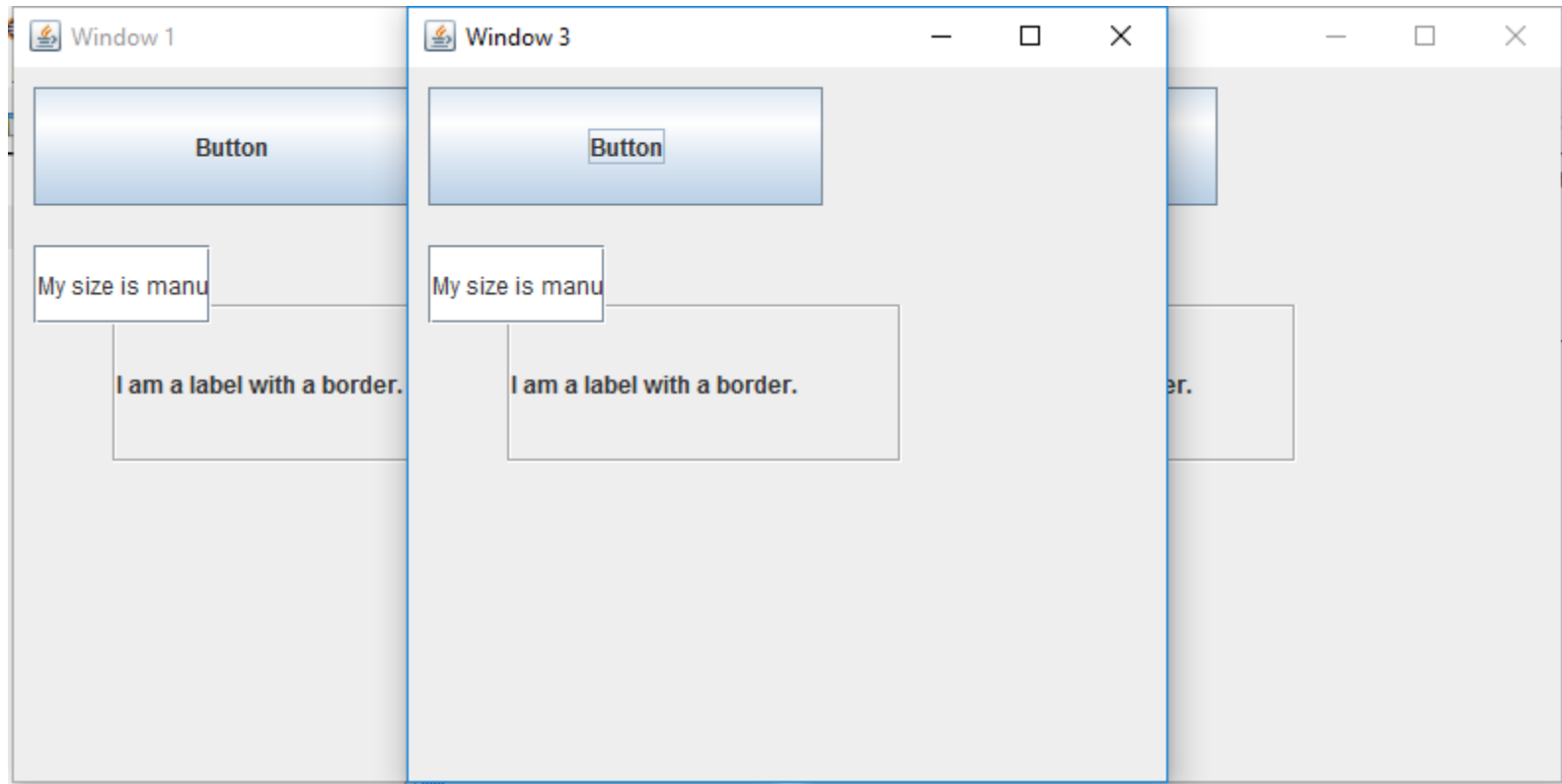reyyan.yeniterzi@ozyegin.edu.tr

GUI with several identical frames

□ Implement a GUI, when started several identical frames will be created.

GUI with several identical frames

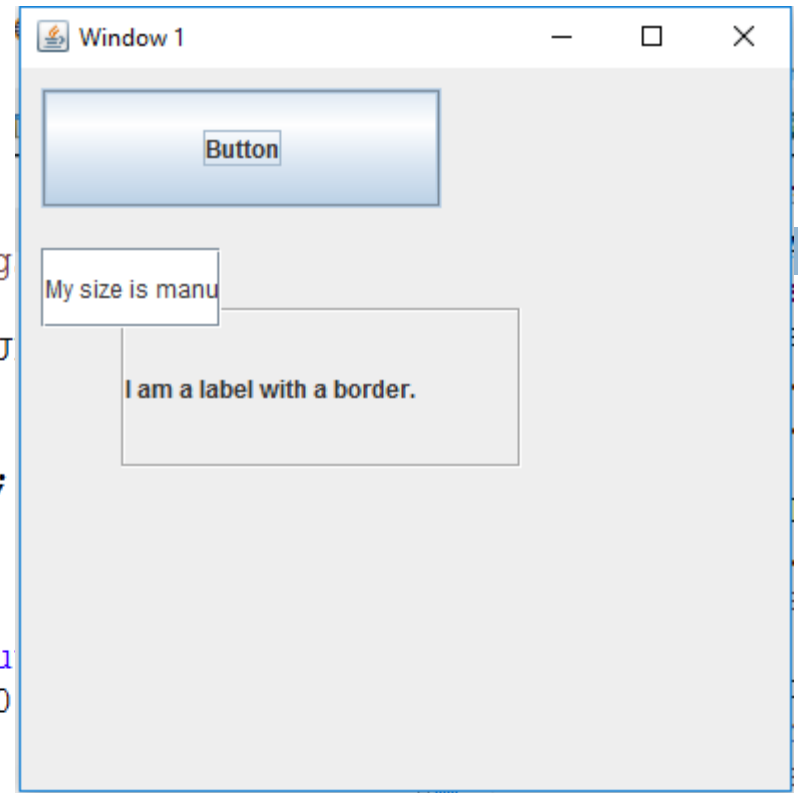# Lets see creation of one frame only

```java
public class AbsoluteLayoutWindow {
    public static void main(String[] args) {
        JFrame frame = new JFrame();
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.setSize(400, 400);

        JPanel mainPanel = new JPanel();
        frame.add(mainPanel);
        mainPanel.setLayout(null);

        JButton button = new JButton("Button");
        button.setBounds(10, 10, 200, 60);
        mainPanel.add(button);

        JTextField field = new JTextField("My size is manually set...");
        field.setBounds(10, 90, 90, 40);
        mainPanel.add(field);

        JLabel label = new JLabel("I am a label with a border.");
        label.setBounds(50, 120, 200, 80);
        mainPanel.add(label);
        label.setBorder(new EtchedBorder());

        frame.setVisible(true);
    }
}
```

Lets see creation of

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        label.setBounds(50, 120, 200, 80);
        mainPanel.add(label);
        label.setBorder(new EtchedBorder());

        frame.setVisible(true);
    }
}
```

Window 1

Button

My size is manu

I am a label with a border.

GUI with several identical frames

□ In order to create several of these frames, are we going to repeat this code?

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public class AbsoluteLayoutWindow {
    public static void main(String[] args) {
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        mainPanel.add(label);
        label.setBorder(new EtchedBorder());

        frame.setVisible(true);
    }
}
```

GUI with several identical frames

□ We can implement our own window (frame) class and just instantinate it multiple times.

```java
public class AbsoluteLayoutWindow {
    public static void main(String[] args) {

        JFrame frame = new JFrame();
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.setSize(400, 400);

        frame.setVisible(true);


    }
}
```

```java
public class AbsoluteLayoutWindow {
    public static void main(String[] args) {

        JFrame frame = new JFrame();
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.setSize(400, 400);

        frame.setVisible(true);

    }
}
```

```java
class MyWindow extends JFrame {

    public MyWindow() {
        super();
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setSize(400, 400);

        setVisible(true);
    }
}

public class AbsoluteLayoutWindows {
    public static void main(String[] args) {
        JFrame frame = new MyWindow();
        frame.setLocation(0, 0);
    }
}
```

```java
public class AbsoluteLayoutWindow {
    public static void main(String[] args) {

        JFrame frame = new JFrame();
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.setSize(400, 400);

        frame.setVisible(true);

    }
}
```

Call to the super class's (JFrame's) contructor

```java
class MyWindow extends JFrame {

    public MyWindow() {
        super();
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setSize(400, 400);

        setVisible(true);
    }
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public class AbsoluteLayoutWindows {
    public static void main(String[] args) {
        JFrame frame = new MyWindow();
        frame.setLocation(0, 0);
    }
}
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```java
public class AbsoluteLayoutWindow {
    public static void main(String[] args) {

        JFrame frame = new JFrame();
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        frame.setSize(400, 400);

        frame.setVisible(true);

    }
}
```

```java
class MyWindow extends JFrame {

    public MyWindow() {
        super();
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setSize(400, 400);

        setVisible(true);
    }
}

public class AbsoluteLayoutWindows {
    public static void main(String[] args) {
        JFrame frame = new MyWindow();
        frame.setLocation(0, 0);
    }
}
```

```
public class AbsoluteLayoutWindow {
    public static void main(String[] args) {

        JFrame frame = new JFrame();
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.setSize(400, 400);

        JPanel mainPanel = new JPanel();
        frame.add(mainPanel);
        mainPanel.setLayout(null);

        frame.setVisible(true);

    }
}
```

```
class MyWindow extends JFrame {

    JPanel mainPanel;

    public MyWindow() {
        super();
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setSize(400, 400);

        mainPanel = new JPanel();
        add(mainPanel);
        mainPanel.setLayout(null);

        setVisible(true);
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}
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Ozyegin U

```java
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        JPanel mainPanel = new JPanel();
        frame.add(mainPanel);
        mainPanel.setLayout(null);

        JButton button = new JButton("Button");
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        JTextField field = new JTextField("My size is manually set...");
        field.setBounds(10, 90, 90, 40);
        mainPanel.add(field);

        JLabel label = new JLabel("I am a label with a border.");
        label.setBounds(50, 120, 200, 80);
        mainPanel.add(label);
        label.setBorder(new EtchedBorder());

        frame.setVisible(true);
    }
}
```

```java
class MyWindow extends JFrame {

    JPanel mainPanel;
    JButton button;
    JTextField field;
    JLabel label;

    public MyWindow() {
        super();
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setSize(400, 400);

        mainPanel = new JPanel();
        add(mainPanel);
        mainPanel.setLayout(null);

        button = new JButton("Button");
        button.setBounds(10, 10, 200, 60);
        mainPanel.add(button);

        field = new JTextField("My size is manually set...");
        field.setBounds(10, 90, 90, 40);
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        label.setBorder(new EtchedBorder());

        setVisible(true);
    }
}
```

```java
class MyWindow extends JFrame {

    JPanel mainPanel;
    JButton button;
    JTextField field;
    JLabel label;

    public MyWindow() {
        super();
        setDefaultCloseOpe
        setSize(400, 400);

        mainPanel = new JP
        add(mainPanel);
        mainPanel.setLayou

        button = new JButton("Button");
        button.setBounds(10, 10, 200, 60);
        mainPanel.add(button);

        field = new JTextField("My size is manually set...");
        field.setBounds(10, 90, 90, 40);
        mainPanel.add(field);

        label = new JLabel("I am a label with a border.");
        label.setBounds(50, 120, 200, 80);
        mainPanel.add(label);
        label.setBorder(new EtchedBorder());

        setVisible(true);
    }
}
```
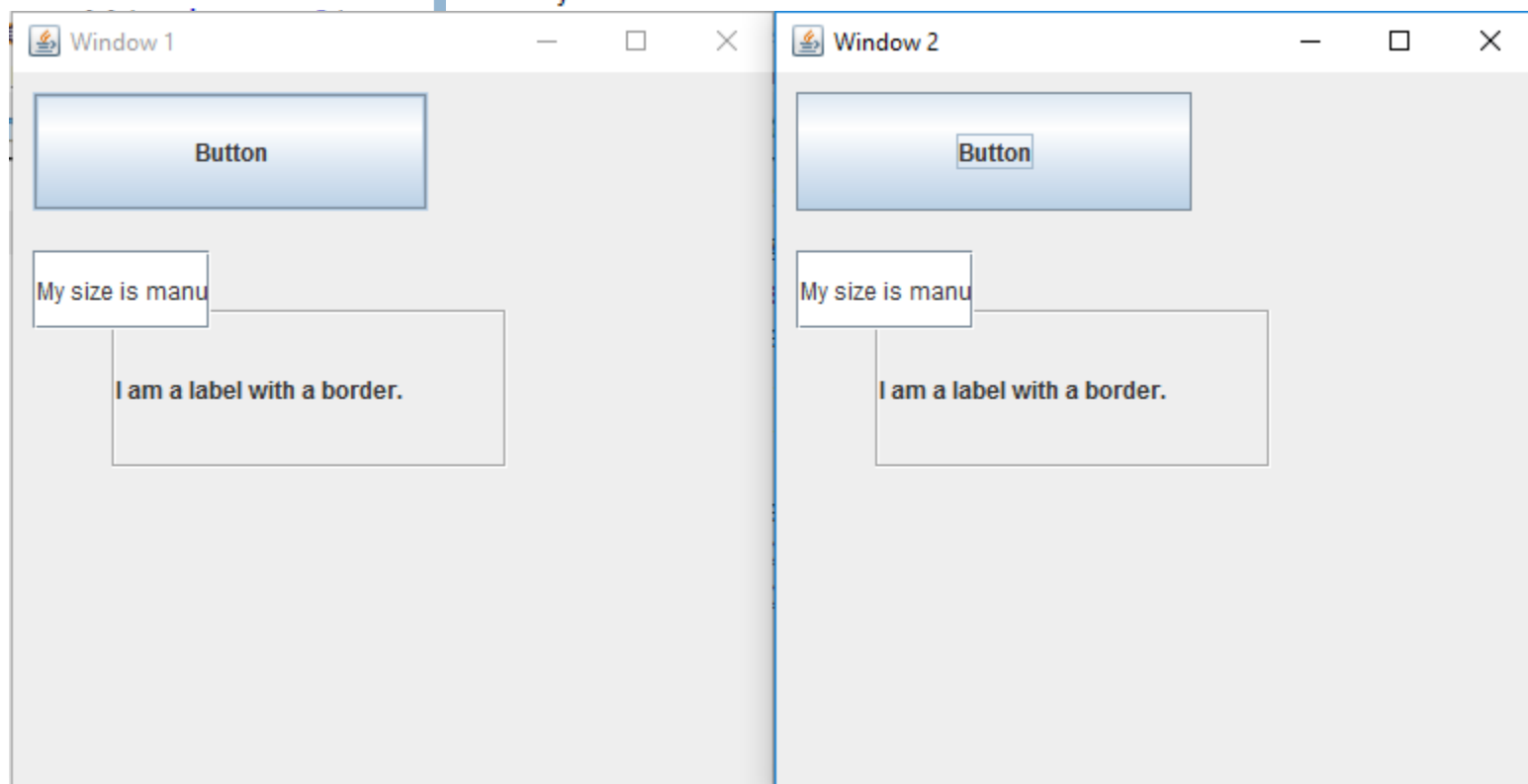
```java
public class AbsoluteLayoutWindows {
    public static void main(String[] args) {
        JFrame frame = new MyWindow();
        frame.setTitle("Window 1");
        frame.setLocation(0, 0);

        JFrame frame2 = new MyWindow();
        frame2.setTitle("Window 2");
        frame2.setLocation(400, 0);
    }
}
```

```java
class MyWindow extends JFrame {

    JPanel mainPanel;
    JButton button;
    JTextField field;
    JLabel label;

    public MyWindow() {
        super();
        setDefaultCloseOpe
        setSize(400, 400);

        mainPanel = new JP
```

```java
public class AbsoluteLayoutWindows {
    public static void main(String[] args) {
        JFrame frame = new MyWindow();
        frame.setTitle("Window 1");
        frame.setLocation(0, 0);

        JFrame frame2 = new MyWindow();
        frame2.setTitle("Window 2");
        frame2.setLocation(400, 0);
    }
```
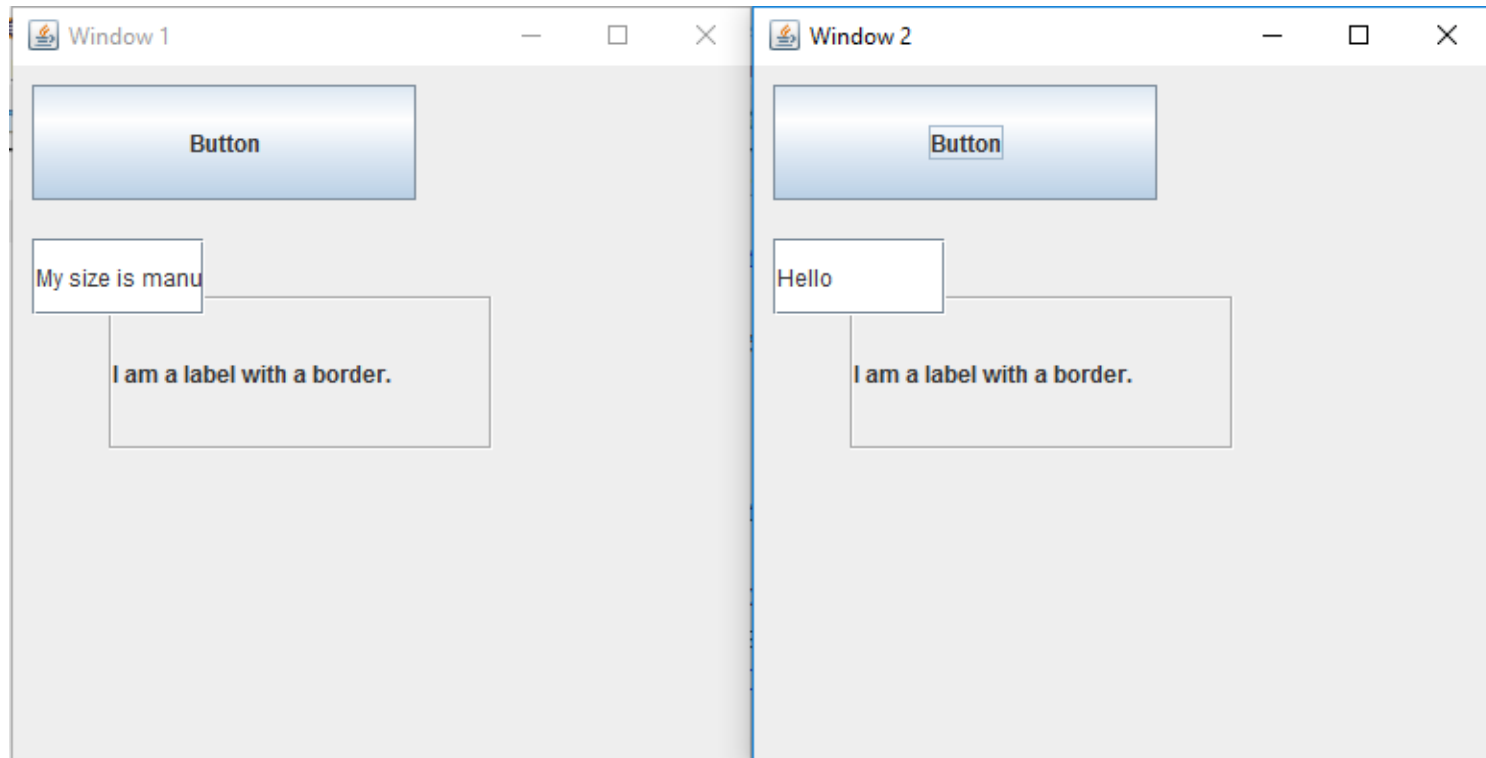


```java
    }
}
```

Add an Event

☐ Implement an actionListener for the button.

  ☐ When the button is pressed, change the text inside textBox to 'Hello'

Add a Button Event

```java
        field = new JTextField("My size is manually set...");
        field.setBounds(10, 90, 90, 40);
        mainPanel.add(field);

        label = new JLabel("I am a label with a border.");
        label.setBounds(50, 120, 200, 80);
        mainPanel.add(label);
        label.setBorder(new EtchedBorder());

        button.addActionListener(new MyButtonHandler(field));

        setVisible(true);
    }
}

class MyButtonHandler implements ActionListener {

    JTextField T;
    MyButtonHandler(JTextField T) {
        this.T = T;
    }

    public void actionPerformed(ActionEvent e) {
        T.setText("Hello");
    }
}
```

Any Questions ?