121 Discussion #12 4/21/2010
Topics: graphics, the event model.
Midterm: Scored 0-1. So a 35 pt Q perfect score is .35.
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A button / textfield example

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

public class TextFieldPanel extends JPanel implements ActionListener{
    private JButton display = new JButton("display text");
    private String message = "";
    private JTextField text = new JTextField(20);
    private int vertical = 20;

    public TextFieldPanel(){
        this.add(display); this.add(text);
        display.addActionListener(this);
    }
    public void paintComponent(Graphics g){
        super.paintComponent(g);
        g.drawString(message, 40, vertical);
    }
    public void actionPerformed(ActionEvent e){
        if (e.getSource() == display) {
            message = text.getText();
            repaint();
            vertical = vertical + 20;
        }
    }
}

Here is the driver class:

public class BabyButtonDriver{
    public static void main(String[] args){
        DisplayWindow d = new DisplayWindow();
        TextFieldPanel p = new TextFieldPanel();
        d.addPanel(p);
        d.showFrame();
    }
}

1. Read the code! Sketch the window; what happens after multiple clicks?
2. In the conditional in actionPerformed - if (e.getSource() == display), what class is “e” from? How does a JTextField component differ from a JButton component?
3. how would you add a quit button that appears to the right of the JTextField called text?

A second example, from the ground up – a 4 button example: quit, then 5cent, 10cent, 25cent buttons, and a display that starts at 0, and rises by 5/10/25 with each click (of course quits with Quit). Cents total is displayed/updated in/around the center of the window.

Panel code for this example:
import java.awt.*; import javax.swing.*;
import java.awt.event.*; // needed for event handling

public class SmallChangePanel extends JPanel implements ActionListener{

    JButton nickel = new JButton("5-cents");
    JButton dime = new JButton("10-cents");
    JButton quarter = new JButton("25-cents");
    JButton quit = new JButton("Quit"); // make button object
    int cents = 0;

    public SmallChangePanel(){
        setBackground(Color.red);
        this.add(nickel);this.add(dime); this.add(quarter);
        this.add(quit); // place button in panel
        quit.addActionListener(this); // panel is listener for button
        nickel.addActionListener(this);
        dime.addActionListener(this);
        quarter.addActionListener(this);
    }

    public void paintComponent(Graphics g){
        super.paintComponent(g);
        g.drawString("total cents: " + cents,200,200);
    }

    public void actionPerformed(ActionEvent e){
        if (e.getSource() == quit)System.exit(0);
        else if (e.getSource() == nickel) {cents += 5; repaint();}
        else if (e.getSource() == dime) {cents += 10; repaint();}
        else if (e.getSource() == quarter) {cents += 25; repaint();}
    }
}