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

public class GUIPizzaStep4
{
    // window frame
    private JFrame frame;
    private Container contentPane;

    // radio buttons and button group
    private JRadioButton regularCrustButton;
    private JRadioButton thinCrustButton;
    private JRadioButton handCrustButton;
    private JRadioButton deepCrustButton;
    private ButtonGroup crustButtonGroup;

    // check boxes
    private JCheckBox pepperoniBox;
    private JCheckBox sausageBox;
    private JCheckBox cheeseBox;
    private JCheckBox pepperBox;
    private JCheckBox onionBox;
    private JCheckBox mushroomBox;
    private JCheckBox oliveBox;
    private JCheckBox anchovyBox;

    // text fields
    private JTextField breadSticksText;
    private JTextField buffaloWingsText;
    private JTextField nameText;
    private JTextField addressText;
    private JTextField cityText;

    // main method
    public static void main (String[] args)
    {
        GUIPizzaStep4 gui = new GUIPizzaStep4();
        gui.start();
    }

    // create the frame
    public void start()
    {
        frame = new JFrame("GUI Pizza");
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

        makeMenus();
        makeContent();

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

    // create menus
    private void makeMenus()
    {
        JMenuBar menuBar;

        menuBar = new JMenuBar();
    }
}
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        frame.setJMenuBar(menuBar);

        // set up menus
        menuBar.add(makeFileMenu());
        menuBar.add(makeHelpMenu());
    }

    // set up the File menu
    private JMenu makeFileMenu()
    {
        JMenu menu;
        JMenuItem menuItem;

        // set up the File menu
        menu = new JMenu("File");
        menu.setMnemonic(KeyEvent.VK_F);

        // add New menu item
        menuItem = new JMenuItem("New Order");
        menuItem.setMnemonic(KeyEvent.VK_N);
        menuItem.addActionListener(new NewListener());
        menuItem.setAccelerator(
            KeyStroke.getKeyStroke(KeyEvent.VK_N,
                                   Event.CTRL_MASK));
        menu.add(menuItem);

        // add Save menu item
        menuItem = new JMenuItem("Save Order");
        menuItem.setMnemonic(KeyEvent.VK_S);
        menuItem.addActionListener(new SaveListener());
        menuItem.setAccelerator(
            KeyStroke.getKeyStroke(KeyEvent.VK_S,
                                   Event.CTRL_MASK));
        menu.add(menuItem);

        // add Exit menu item
        menu.addSeparator();
        menuItem = new JMenuItem("Exit");
        menuItem.setMnemonic(KeyEvent.VK_X);
        menuItem.addActionListener(new ExitListener());
        menuItem.setAccelerator(
            KeyStroke.getKeyStroke(KeyEvent.VK_Q,
                                   Event.CTRL_MASK));
        menu.add(menuItem);

        return menu;
    }

    // set up the Help menu
    private JMenu makeHelpMenu()
    {
        JMenu menu;
        JMenuItem menuItem;

        // set up the Help menu
        menu = new JMenu("Help");
        menu.setMnemonic(KeyEvent.VK_H);

        // add About menu item
        menuItem = new JMenuItem("About GUI Pizza");
        menuItem.setMnemonic(KeyEvent.VK_A);
        menuItem.addActionListener(new AboutListener());
        menu.add(menuItem);

        return menu;
    }

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}

// create window content
private void makeContent()
{
    contentPane = (JPanel)frame.getContentPane();
    contentPane.setLayout(new BorderLayout(6,6));

    makeNorthRegion();
    makeWestRegion();
    makeCenterRegion();
    makeEastRegion();
}

// set up the NORTH region
private void makeNorthRegion()
{
    // get and display image in NORTH region
    JLabel imgLabel = new JLabel(new ImageIcon("L08-06.jpg"), JLabel.CENTER);
    contentPane.add(imgLabel, BorderLayout.NORTH);
}

// set up the WEST region
private void makeWestRegion()
{
    // set up Crust options with radio buttons in WEST
    JPanel panel = new JPanel();
    panel.setLayout(new BoxLayout(panel,BoxLayout.Y_AXIS));
    panel.setBorder(BorderFactory.createTitledBorder("Choose a Crust"));

    crustButtonGroup = new ButtonGroup();

    regularCrustButton = new JRadioButton("Regular Crust",true);
    crustButtonGroup.add(regularCrustButton);
    panel.add(regularCrustButton);

    thinCrustButton = new JRadioButton("Thin Crust",false);
    crustButtonGroup.add(thinCrustButton);
    panel.add(thinCrustButton);

    handCrustButton = new JRadioButton("Hand-Tossed Crust",false);
    crustButtonGroup.add(handCrustButton);
    panel.add(handCrustButton);

    deepCrustButton = new JRadioButton("Deep-Dish Crust",false);
    crustButtonGroup.add(deepCrustButton);
    panel.add(deepCrustButton);

    contentPane.add(panel, BorderLayout.WEST);
}

// set up the CENTER region
private void makeCenterRegion()
{
    // set up toppings with check boxes in CENTER
    JPanel panel = new JPanel();
    panel.setLayout(new BoxLayout(panel,BoxLayout.Y_AXIS));
    panel.setBorder(BorderFactory.createTitledBorder("Select Toppings"));

    pepperoniBox = new JCheckBox("Pepperoni", false);
    panel.add(pepperoniBox);
    sausageBox = new JCheckBox("Sausage", false);
    panel.add(sausageBox);
    cheeseBox = new JCheckBox("Extra Cheese", false);
    panel.add(cheeseBox);
}

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        pepperBox = new JCheckBox("Bell Peppers", false);
        panel.add(pepperBox);
        onionBox = new JCheckBox("Onions", false);
        panel.add(onionBox);
        mushroomBox = new JCheckBox("Mushrooms", false);
        panel.add(mushroomBox);
        oliveBox = new JCheckBox("Olives", false);
        panel.add(oliveBox);
        anchovyBox = new JCheckBox("Anchovies", false);
        panel.add(anchovyBox);
        contentPane.add(panel, BorderLayout.CENTER);
    }

// set up the EAST region
private void makeEastRegion()
{
    // set up side orders with quantities in EAST
    JPanel panel = new JPanel();
    panel.setLayout(new BoxLayout(panel, BoxLayout.Y_AXIS));
    panel.setBorder(BorderFactory.createTitledBorder("Sides (Enter Quantity)"));
    panel.setPreferredSize(new Dimension(150,0));

    JPanel smallPanel = new JPanel();
    smallPanel.setLayout(new BoxLayout(smallPanel, BoxLayout.X_AXIS));
    breadSticksText = new JTextField("", 2);
    breadSticksText.setMaximumSize(new Dimension(20,24));
    smallPanel.add(breadSticksText);
    smallPanel.add(new JLabel(" Bread Sticks"));
    smallPanel.setAlignmentX(Component.LEFT_ALIGNMENT);
    panel.add(smallPanel);

    smallPanel = new JPanel();
    smallPanel.setLayout(new BoxLayout(smallPanel, BoxLayout.X_AXIS));
    buffaloWingsText = new JTextField("", 2);
    buffaloWingsText.setMaximumSize(new Dimension(20,24));
    smallPanel.add(buffaloWingsText);
    smallPanel.add(new JLabel(" Buffalo Wings"));
    smallPanel.setAlignmentX(Component.LEFT_ALIGNMENT);
    panel.add(smallPanel);

    contentPane.add(panel, BorderLayout.EAST);
}

// set up the listener for the About menu item
private class AboutListener implements ActionListener
{
    public void actionPerformed(ActionEvent e)
    {
        JOptionPane.showMessageDialog(frame,
            "GUI Pizza\n\nVersion 1.0\nBuild B20080226-1746\n\n" +
            "(c) Copyright Merrill Hall 2008\nAll rights reserved\n\n" +
            "Visit /\nEducation To Go\n" +
            "Intermediate Java Course",
            "About GUI Pizza",
            JOptionPane.INFORMATION_MESSAGE);
    }
}

// listener for the Exit menu item
private class ExitListener implements ActionListener
{
    public void actionPerformed(ActionEvent e)
    {
        System.exit(0);
    }
}

```

```
}

// listener for the New Order menu item
private class NewListener implements ActionListener
{
    public void actionPerformed(ActionEvent e)
    {
        JOptionPane.showMessageDialog(frame,
            "The File > New Order menu option was clicked",
            "GUI Pizza",
            JOptionPane.INFORMATION_MESSAGE);
    }
}

// listener for the Save Order menu item
private class SaveListener implements ActionListener
{
    public void actionPerformed(ActionEvent ae)
    {
        JOptionPane.showMessageDialog(frame,
            "The File > Save Order menu option was clicked",
            "GUI Pizza",
            JOptionPane.INFORMATION_MESSAGE);
    }
}
}
```

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