CSE 8B Today

PSA 6 due Thursday

How was the Exam?
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B. Not too bad
C. So-so
D. Pretty hard
E. Totally brutal

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B. I’ve started: I’ve read over the assignment and started thinking about it
C. I’ve read over the assignment AND THE CODE and started thinking about it
D. I’ve started writing some code
E. I’m done (moving on to extra credit)

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Wednesday: Recursion; Friday: Applets
New seats Wednesday: Look for email
Tuesday night
protected void paintComponent(Graphics g) {
    super.paintComponent(g);
    if (board[position] == 'X')
        g.setColor(Color.blue);
    else if (board[position] == 'O')
        g.setColor(Color.green);
    else
        g.setColor(Color.yellow);
    g.fillOval(0, 0, getWidth(), getHeight());
}

public void mouseClicked(MouseEvent e) {
    board[position] = turn;
    repaint();
}
public class ConnectFourInnerDemo extends JFrame {
    // CFID defined here
    class MyPanel extends JPanel {
        private int position;  // A new variable in MyPanel
        protected void paintComponent( Graphics g ) {
            super.paintComponent(g);
            if (board[position] == 'X' )
                g.setColor( Color.blue );
            else if ( board[position] == 'O' )
                g.setColor( Color.green );
            else g.setColor( Color.yellow );
            g.fillOval( 0, 0, getWidth(), getHeight() );
        }
        // other MyPanel methods defined here
    }
    class PanelClickListenerInner implements MouseListener {
        public void mouseClicked( MouseEvent e ) {
            board[position] = turn;
            repaint();
        }
        // Other methods defined here
    }
}
Adding the PanelClickListener

ConnectFourSimpleDemo object (extends JFrame)

- turn: ‘X’
- status: Address of the JLabel object
- board: Address of the board array

MyPanel object (extends JPanel)

- position: 0

PanelClickListenerInner object (implements MouseListener)

public void mouseClicked( ... )

public ConnectFourInnerDemo()
{
    ...
    JPanel displayBoard = new JPanel();
    JPanel p1 = new MyPanel();
    p1.addMouseListener(new PanelClickListener());
    ...
}

Why won’t this code work?
A. It will work fine
B. The PanelClickListenerInner must be instantiated inside a MyPanel object
C. A PanelClickListenerInner is not a MouseListener
D. PanelClickListenerInner objects cannot be instantiated using new because PanelClickListenerInner is an interface
public class ConnectFourInnerDemo extends JFrame {
    public ConnectFourInnerDemo() {
        JPanel displayBoard = new JPanel();
        JPanel p1 = new MyPanel(0);
        JPanel p2 = new MyPanel(1);
        JPanel p3 = new MyPanel(2);

        displayBoard.setLayout(new GridLayout(1, 3));
        displayBoard.add(p1);
        displayBoard.add(p2);
        displayBoard.add(p3);
        ...
    }
}

class MyPanel extends JPanel {
    private int position;

    public MyPanel(int pos) {
        position = pos;
        addMouseListener(new PanelClickListenerInner());
    }
    ...

    Adding the PanelClickListenerListener

ConnectFourSimpleDemo object (extends JFrame)

Complete the memory model based on the code on the last slide

<table>
<thead>
<tr>
<th>turn</th>
<th>‘X’</th>
</tr>
</thead>
<tbody>
<tr>
<td>status</td>
<td>Address of the JLabel object</td>
</tr>
<tr>
<td>board</td>
<td>Address of the board array</td>
</tr>
</tbody>
</table>

MyPanel object (extends JPanel)

| position | 0 |
| PanelClickListenerInner object (implements MouseListener) |
| public void mouseClicked( ... ) |

P2P2B3

P2P2B3

PCLC object

P2P2B3

PCLC object
public class ConnectFourInnerDemo extends JFrame {
    public ConnectFourInnerDemo() {
        JButton jbtReset = new JButton( "New Game" );
        jbtReset.addActionListener( new ResetListener() );
        JButton jbtSwitch = new JButton( "Switch turns" );
        jbtSwitch.addActionListener( new SwitchListener() );

        JPanel buttonPanel = new JPanel();
        buttonPanel.add( jbtReset );
        buttonPanel.add( jbtSwitch );
        ...
    }

    class ResetListener implements ActionListener {
        public void actionPerformed( ActionEvent e ) {
            // You will implement
        }
    }

    class SwitchListener implements ActionListener {
        public void actionPerformed( ActionEvent e ) {
            // You will implement
        }
    }
}
public class ConnectFourInnerDemo extends JFrame {
    // CFID defined here
    class MyPanel extends JPanel {
        // MyPanel defined here
    }

    // We will register this listener with the reset button
    class ResetListener implements ActionListener {
        public void actionPerformed( ActionEvent e ) {
            // You will implement
        }
    }

    // We will register this listener with the Switch turns button
    class SwitchListener implements ActionListener {
        public void actionPerformed( ActionEvent e ) {
            // You will implement
        }
    }
}
class ResetListener implements ActionListener {
    public void actionPerformed(ActionEvent e) {

    }
}

class SwitchListener implements ActionListener {
    public void actionPerformed(ActionEvent e) {

    }

    private char turn;
    private char[] board;
    private JLabel status;
    }