```java
/*

Jared Dyreson
CWID: 889546529
Window.java -> Java Quiz Application

*/

import javax.swing.*;
import java.text.MessageFormat;
import java.awt.*;
import javax.swing.JFrame;
import java.awt.event.*;
import java.lang.Math;

import java.io.*;
import java.util.*;

public class Window extends JFrame implements ActionListener, ItemListener{

    // suppress an annoying pop-up information -> https://stackoverflow.com/questions/7823477/warning-serial-serializable-class-someclass-has-no-definition-of-serialversi
o

    private static final long serialVersionUID = 12996;
    final int FRAME_WIDTH = 500, FRAME_HEIGHT = 500;

    // labels used in the program
    JLabel display_result, padding, top_padding, program_title, question_one, question_two, question_three, question_four;

    // buttons
    JButton submit_response = new JButton("Submit");

    String[] possible_responses = {"False", "True"};

    JComboBox<String> combo_box = new JComboBox<>(possible_responses);

    java.util.List<JCheckBox> question_one_check_boxes = new ArrayList<JCheckBox>();
    java.util.List<JCheckBox> question_two_check_boxes = new ArrayList<JCheckBox>();
    java.util.List<JCheckBox> question_four_check_boxes = new ArrayList<JCheckBox>();

    // all possible answers
    String[] question_one_answers = {"Range", "Space", "Domain", "Scope"};
    String[] question_two_answers = {"Non-static", "Private", "Public", "Static"};
    String[] question_four_answers = {"Bundle", "Packet", "Package", "Gaggle"};


    public Window(){
        // classes with inheritence must include this FIRST
        super("Java Quiz");

        // this allows for the answers to be assigned a button in the most non tedious way possible
        for (int i = 0; i < 4; ++i){
```

```java
            JCheckBox cb_one = new JCheckBox(question_one_answers[i]);
            JCheckBox cb_two = new JCheckBox(question_two_answers[i]);
            JCheckBox cb_four = new JCheckBox(question_four_answers[i]);

            question_one_check_boxes.add(cb_one);
            question_two_check_boxes.add(cb_two);
            question_four_check_boxes.add(cb_four);
        }
        // set up values for the frame
        setSize(FRAME_WIDTH, FRAME_HEIGHT);
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setLocationRelativeTo(null);
        setLayout(new FlowLayout());

        // various elements that will be displayed in the GUI

        submit_response.addActionListener(this);

        // all of the questions being displayed, there are some weird extra whitespaces....
        display_result = new JLabel("/20", SwingConstants.CENTER);
        display_result.setFont(new Font("Times New Roman", Font.BOLD, 20));
        padding = new JLabel("                              ");
        top_padding =  new JLabel("                        ");

        program_title = new JLabel("      223J Quiz Application", SwingConstants.CENTER);
        program_title.setFont(new Font("Times New Roman", Font.BOLD, 20));

        question_one = new JLabel("      1) A variable can be referenced from its       ", SwingConstants.CENTER);
        question_one.setFont(new Font("Times New Roman", Font.BOLD, 16));

        question_two = new JLabel("2) Methods referenced with individual objects are", SwingConstants.CENTER);
        question_two.setFont(new Font("Times New Roman", Font.BOLD, 16));

        question_three = new JLabel("3) Most class data fields are private", SwingConstants.CENTER);
        question_three.setFont(new Font("Times New Roman", Font.BOLD, 16));

        question_four = new JLabel("     4) Java classes are stired in a folder or                ", SwingConstants.CENTER);
        question_four.setFont(new Font("Times New Roman", Font.BOLD, 16));


        // add all the elements to the frame

        add(program_title);
        add(top_padding);
        add(top_padding);
        add(question_one);

        for(int i = 0; i < question_one_check_boxes.size(); ++i){ add(question_one_check_boxes.get(i)); }

        add(question_two);
```

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103
104        for(int i = 0; i < question_two_check_boxes.size(); ++i){ add(question_two_check_boxes.get(i)); }
105
106        add(question_three);
107        add(combo_box);
108
109        add(question_four);
110        for(int i = 0; i < question_four_check_boxes.size(); ++i){ add(question_four_check_boxes.get(i)); }
111
112        add(padding);
113        add(submit_response);
114        // allows for alignment of the result in the frame
115        add(display_result);
116
117    }
118
119    // allows us to have an event map to a listener
120    @Override
121    public void itemStateChanged(ItemEvent event){
122        Object source = event.getSource();
123
124    }
125    @Override
126        public void actionPerformed(ActionEvent event){
127
128            // not the best solution I've ever come up with but I did miss the lecture (jury duty) so I couldn't incorporate anything went over in class
129            int counter = 0;
130            JCheckBox a = question_one_check_boxes.get(0);
131            JCheckBox b = question_two_check_boxes.get(0);
132            JCheckBox c = question_four_check_boxes.get(0);
133
134            // if there is an answer, we give us a
135            if(a.isSelected()){
136                counter+=5;
137            }
138            if(b.isSelected()){
139                counter+=5;
140            }
141            if(c.isSelected()){
142                counter+=5;
143            }
144            if(combo_box.getSelectedItem().toString() == "True"){
145                counter+=5;
146            }
147            String converted_value = Integer.toString(counter);
148            display_result.setText(converted_value + "/20");
149        }
150 }
```

```java
/*

Jared Dyreson
CWID: 889546529
Driver.java ->

*/

public class Driver {
    public static void main(String[] args){
        // Auto generated with caffine and containerd.service
        Window winwoes = new Window();
        winwoes.setVisible(true);
    }
}
```

Java Quiz

223J Quiz Application

1) A variable can be referenced from its

☐ Range ☐ Space ☐ Domain ☐ Scope

2) Methods referenced with individual objects are

☐ Non-static ☐ Private ☐ Public ☐ Static

3) Most class data fields are private [False ▼]

4) Java classes are stired in a folder or

☐ Bundle ☐ Packet ☐ Package ☐ Gaggle

[Submit] **/20**

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Submit **15/20**

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