GUI Programming 2019-2020 – Year 2

Labwork 7 – BoxLayout, CardLayout, Slider and Progress bar:

(Worth 5% - or 50 points out of 500 points for labwork this semester)

IMPORTANT NOTES:

- **NO COPYING PERMITTED AND ZERO MARKS WILL APPLY TO COPIED WORK. FURTHER ACTION MAY BE TAKEN AGAINST STUDENTS THAT HAVE BEEN FOUND TO COPY WORK.**

- **ASSESSMENT WILL INVOLVE ONE-TO-ONE QUESTIONS ABOUT YOUR SUBMITTED WORK. USE COMMENTS IN YOUR CODE TO ENSURE YOU DON'T FORGET WHY YOU WROTE CODE YOU MAY LATER BE ASKED ABOUT.**

- **ALL WORK MUST BE SUBMITTED TO MOODLE BY DATES SPECIFIED (2 LABS SUBMISSIONS OF FIVE LABS THROUGHOUT THE SEMESTER).**

- **MANY OF THE TASKS ASSIGNED BELOW CAN BE COMPLEX AND\OR THE DESCRIPTIONS MAY REQUIRE FURTHER CLARIFICATIONS. PLEASE USE THE AVAILABLE LAB TIMES TO ASK FOR CLARIFICATIONS AND ADVICE\HINTS ON THE TASKS BELOW.**

Part 1 – BoxLayout (10 points)

Create a class called **Lab6Part1**. Create a JFrame that contains two panels. Each panel should contain three components of your choice (e.g. labels, text area, combo, etc.). Set the layout of one of the panels as vertical (Y) box layout and the other as horizontal (X) box layout. Add one of the panels to the north of the frame and one to the center.

- Create and add first panel with three components (3 points)
- Create and add second panel with three components (3 points)
- Set box layout vertical on first panel (2 points)
- Set box layout horizontal on second panel (2 points)

Part 2 – Simple CardLayout (10 points)

Create a Java program called **Lab6Part2**. Create a JFrame that presents two cards in CardLayout (use panels to contain the layouts\components). The first card contains a JComboBox to choose from three car manufacturers (of your choice) the second presents the same choice but in the form of a JList. Add two buttons to the interface to either show the List Input or the Combo Input displays (switch cards using CardLayout and the button handler).

- Create the CardLayout (2 points)
- Create and add the combo options card to layout (2 points)
- Create and add the JList options card to layout (2 points)
- Add the listeners to buttons (2 points)
- Swap between cards using the buttons handler method (2 points)

Part 3 – JSlider with listeners (10 points)

Create a JFrame class called **Lab6Part3**. Create a JFrame that mimics a volume and balance controller (for an audio system). The maximum volume of the device is 30 and the minimum level is zero, the maximum balance setting is 5 and the minimum balance setting is -5. Supply labels that show the current selected setting for each slider.

- Create volume slider and add to frame (2 points)
- Create balance slider and add to frame (2 points)
- Add listeners to the volume slider and test (2 points)
- Add listeners to the balance slider and test (2 points)
- Create and add Label display of volume setting (1 point)
- Create and add Label display of balance setting (1 point)

Part 4 – Survey GUI with CardLayout (20 points)

Create a class called **Lab6Part4**. Create a JFrame that conducts a small survey using four panels in a card layout. On the first three cards present three questions to the user which must have ONE response only each (use radio buttons or check boxes that are contained in a button group), e.g., pick your favourite vegetable from the following potato, onion, pea etc. The questions should be your own choice. In at least one case show a picture of the choice as well as the text. The fourth card should show the results chosen from the current user (e.g. this user likes onions etc.). Use at least one well-defined method to modularize the creation of the panels.

- Three survey panels with options (3 x 2) (6 points)
- Use of methods to build panels\cards (at least one for 2 pts.) (2 points)
- Use of Button groups to restrict choice to one option (MUTEX) (2 points)
- Response panel with survey results (in card layout) (2 points)
- Listeners added and working for components (2 points)
- Added all panels to Card Layout (2 points)
- Use of images (1 point)
- Swapping of cards controlled by listener\handler (3 points)