

COMPS203F Quiz 01 [40 marks], time allowed: 30 minutes

- (1) Write your **name** and **student ID** on your answer paper
- (2) This is an Open Book quiz but you should do it using **your OWN efforts** only.
- (3) Write clearly the **part letter** [e.g. (b)] and then your answers. Marks will be **deducted** if not done so.

Question 1

In each of the following parts, write **additional lines** to do the required task. We assume they will be in correct positions.

- (a) Write a class GUI which extends JFrame with attributes label (type JLabel, text "5"), textField (type JTextField, length 8) and button (type JButton, text "+3"). Also write the **getter methods** of the attributes (setter methods not required). The names of getter methods should be `getWord()` if the attribute name is word. Add these attributes to the frame with FlowLayout manager in the order given above. The program should terminate when the window is closed. Remember to write any import statements needed.
- (b) Also add a menu item menuItem (type JMenuItem, text "No vowels") to an "Action" menu which is on the menu bar. Also add the menu bar to the frame. Remember to declare the attributes first.
- (c) Write appropriate code to handle the action of button. When it is pressed, 3 is added to the **real** number on label and the result is put onto the label replacing the original value. Remember to write any import statements needed.
- (d) Write appropriate code to handle the action of menuItem. When it is selected, the text on textField is displayed on label by removing the lowercase vowels (e.g., "Oracle" becomes "Orcl").
- (e) Assume a new button button2 (type JButton, text "Multiply") is declared and added to the frame. Write code to do the following: when it is clicked, the **integer** on label is multiplied by the **integer** in textField and the result is put on label.

Partial Method list:

```
JButton --      JButton(s), setText(s)
JCheckBox --    isSelected(), JCheckBox(s), setSelected()
JFrame --      getContentPane(), JFrame(s), pack(), setJMenuBar(mb), setLayout(lm),
               setSize(i,j), setVisible(bo), show()
JLabel --      JLabel(s)
JMenuBar --    add(m), JMenuBar()
JMenu --      add(mi), addSeparator(), JMenu(s)
JMenuItem --   JMenuItem(s)
JOptionPane -- showMessageDialog(o,s), showInputDialog(o,s), showConfirmDialog(o,s)
JPanel --      add(co), add(co, i)
JRadioButton -- isSelected(), JRadioButton(s), setSelected()
JTextField --  JTextField(i)
JTextArea --   JTextArea(i,j)
where b: byte, b[]: byte array, bo: boolean, c:char, co: GUI component, i,j: int, k
key(Object), lm: layout manager, m: menu, mb: menu bar, mi: menu item, o: Object, s: String
```