INTE2512 Object-Oriented Programming

Lab – GUI Programming 2

1. What is wrong in the following code?

```
public class Test extends Application {         public class Test extends Application {
    public void start(Stage stage) {                public void start(Stage stage) {
        Button btOK = new Button("OK");                 Button btOK = new Button("OK");
    }                                                   btOK.setOnAction(new EventHandler<ActionEvent> {
    private class Handler implements                        public void handle(ActionEvent e) {
            EventHandler<ActionEvent> {                         System.out.println(e.getSource());
        public void handle(Action e) {                      }
            System.out.println(e.getSource());          } // Something missing here
        }                                           }
    }                                           }
}
```

2. Show the output of the following code:

```
public class Test {
    public static void main(String[] args) {
        Test test = new Test();
        test.setAction1(() -> System.out.print("Action 1! "));
        test.setAction2(e -> System.out.print(e + " "));
        System.out.println(test.setAction3(e -> e * 2));
    }

    public void setAction1(T1 t) {
        t.m();
    }
    public void setAction2(T2 t) {
        t.m(4.5);
    }
    public double setAction3(T3 t) {
        return t.m(5.5);
    }
}

interface T1 {
    public void m();
}
interface T2 {
    public void m(Double d);
}
interface T3 {
    public double m(Double d);
}
```

3. Write a program to display the text **Java is fun** and **Java is powerful** alternately with a mouse click.

4. Write a program that moves a ball (a circle) in a pane. You should define a pane class for displaying the ball and provide the methods for moving the ball left, right, up, and down, as shown in the following figure. Check the boundary to prevent the ball from moving out of sight completely.
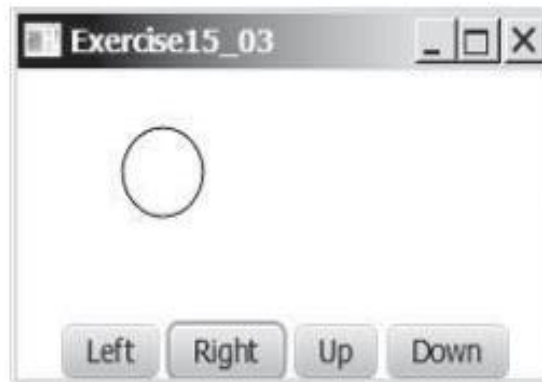
5. Write a program that draws a fixed circle centred at (100, 60) with radius 50. Whenever the mouse is moved, display a message indicating whether the mouse point is inside the circle at the mouse point or outside of it, as shown in the following figure.
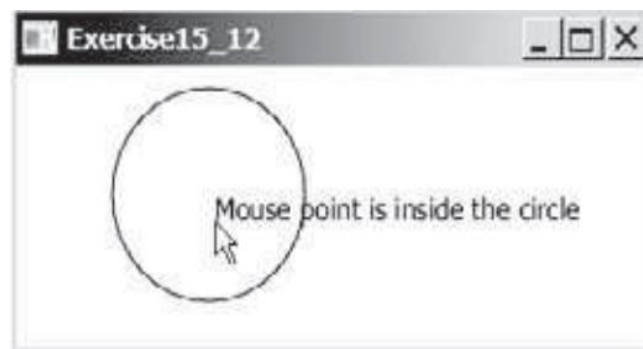
6. Write a program that displays two circles with radius 10 at location (40, 40) and (120, 150) with a line connecting the two circles, as shown in the following figure. The distance between the circles is displayed along the line. The user can drag a circle. When that happens, the circle and its line are moved and the distance between the circles is updated.