CIS 2571: Introduction to Java
Lab Assignment

Name: _____

Lab Assignment	#10 – GUI and Event Driven Programming
Due Date *(end of class)*	05/05/2014

Points	Short Answer Questions _____/ 10 pts.
	
	Animation Program
	    GUI display
	        • Aesthetic layout ___/5
	    source code
	        • Proper use of
	          classes/methods ___/15
	        • Required logic ___/20
	        • Alignment ___/5
	        • Comments ___/5
	    Program run
	        • Accuracy/Output ___/5
	    Uploaded zip ___/5
	    Presentation ___/10
	    Total Program _____/ 70 pts.
	Total _____/ 80 pts.

Lab Assignment #10 Activities

1. Answer the questions in the spaces provided or attach a sheet with your answers (be sure to label questions for proper credit) *(2 points each, unless noted otherwise)*:

Question	Answer
a. What is the highest level class type that an instance of the **Container** class can hold?	
b. If a **GridLayout** is initially setup to have 3 rows and 2 columns, how would 12 components be arranged?	
c. What type of event(s) is/are generated from a **JCheckBox** object?	
d. What Listener Interface should be implemented to handle **mouse click events**?	

Question	Answer
e. What is the name of the bytecode file generated for the single anonymous class listener in the **TestClass.java** file?	

2. On your own, select any one of the following **Chapter 16 Programming Exercises** on pages 630 to 638 of your textbook:

- 16.12 Display a running fan

- 16.15 Racing car

- 16.33 Geometry: pendulum

Although each exercise displays a different graphic image, all applications **must include** the following for full credit:

a) Use radio buttons, **Black**, **Red**, and **Blue**, to control the color of the drawn graphic.

   o The **Black** radio button changes the displayed graphic image to black

   o The **Red** radio button changes the displayed graphic image to red

   o The **Blue** radio button changes the displayed graphic image to blue

b) Use two buttons, **Start** and **Stop**, to control your animation.

   o The **Start** button starts, or continues, animation

   o The **Stop** button stops animation

c) Use two arrow keys, **Up Arrow** and **Down Arrow**, to control the speed of your animation.

   o The **Up Arrow** increases the speed of your animation

   o The **Down Arrow** decreases the speed of your animation

d) Use **Graphics** class methods to 'draw' your graphic image. Your images should use the display given with each textbook problem description.

e) Each problem must contain a **separate** class (*from the main testing class*) that draws and controls the animation (*through ActionListeners*):

   o 16.12 Display a running fan → **RunningFan**

   o 16.15 Racing car → **RacingCar**

   o 16.33 Geometry: pendulum → **Pendulum**

f)   dd a block comment at the top of the file to identify your name, file, date, class, assignment, and short description of the included classes. Add block comments before any nested classes to identify and describe their purpose. **Use proper code alignment for full credit.**

g)   Compile the source code until no errors are found.

  - Common Errors: http://www.cs.armstrong.edu/liang/intro9e/debug.html

h)   Run the Java bytecode and observe the results.

i)   Attach a hardcopy printout of your source code file.

j)   Attach a hardcopy printout of your output GUI display.

k)   Create a **.zip** file containing only your **.java** source code files. Upload a copy of this **.zip** file to the appropriate assignment in Blackboard (this will be demonstrated during class).

  - See the following link for a video on submitting assignment in Blackboard:

    http://ondemand.blackboard.com/r91/movies/bb91_student_submit_assignment.htm

  - See the following link for a video on creating **.zip** files in Windows XP:
    http://www.youtube.com/watch?v=3xqF56OZo_k

  - See the following link for instructions on creating **.zip** files:
    http://condor.depaul.edu/slytinen/instructions/zip.html

l)   Present your application in class during the last week of the semester (prior to final evaluation activities).