**San José State University**

# Computer Science Department CS151, Object Oriented Design and Programming, 07, Spring 2020

# Homework #8

Objective:

This homework’s objective is to review and understand the units on GUI programming and how to get it done in Java.

Details:

Exercise 1:

Remember the calculator example I presented during my lectures? It was implemented using Java AWT libraries. Implement the same calculator application but now using JavaFX. Save your program to a file named **Calculator.java**.

For an extra credit of 5 points you can add graphics to the calculator buttons.

For an extra credit of 5 points you can add menu(s) to perform the following operations: add, subtract, divide, multiply, clear.

Exercise 2:

Implement an application that displays a screen partitioned into a 2x2 grid. There need to be some type of visual separators for the grid cells (e.g. border around each cell, lines separating them, etc.). Each cell of the grid should display a single shape. The following shapes should be present in the grid: sphere, cylinder, box, polygon. It is up to you what visual parameters to set to these shapes (size, color, etc.). Add user-intuitive controls (e.g. buttons or menu items, etc.) to your screen to animate each of the shapes. The specifics of the UI design are up to you. The user should be able select which cell of the grid to animate and select the animation type: RotateTransition, ScaleTransition, FadeTransition, SequentialTransition. Save your program to a file named **Animation.java**.

Submission:

In your class repo create a directory called “Assignment8” and add all the files created for this homework assignment to that directory.

This homework assignment is assigned on 04/16/2020 and is due on 04/28/2020 before 11:59pm. Email your assignment submission to me at both [Yulia.Newton@sjsu.edu](mailto:Yulia.Newton@sjsu.edu) and [yulia.newton@gmail.com](mailto:yulia.newton@gmail.com), as well as the grader at [akshay.kajale@sjsu.edu](mailto:akshay.kajale@sjsu.edu). The subject of the email should say “CS151 Assignment 8”. Add your name as it appears on the class roster and the URL to your git repo in the body of an email.

Grading:

Your code must compile and execute successfully in order to get full credit for this assignment. I will compile and execute Calculator.java and Animation.java.

* Program with no compile errors (5 pts)
* Program executes (5 pts)
* Program outputs what is required by the exercise (5 pts)
* Two possible extra credit tasks are listed in Exercise 1, for a total of 10 points

A total of 40 points, including extra credit, are possible for this homework assignment.