Homework 2
50 points
Due Thursday October 4th 11:59pm

Programming Exercise 1 - Polymorphism

Create a parent class Shape. Create four children classes: Square, Cube, Triangle, and Pyramid. The Pyramid class represents a 4 sided pyramid with a triangle base, not a 5 sided pyramid with a square base.
- Each child class will have a private int side, with getters and setters.
- Each child class should also have a method called getArea() which will calculate the area of the shape. For 3D shapes getArea() should return the surface area.

Create a test class TestShape. Demonstrate polymorphism by creating an ArrayList of Shapes, and fill the ArrayList with child objects. The ArrayList should contain at least 8 objects (at least 2 of each child). In a loop, call the getArea() method for each object in the ArrayList.

Programming Exercise 2 - JavaFX

Write a Hello World JavaFX GUI program.
- Your class must extend Application and implement a start method().
- Your class should have 4 layers; a stage, a scene, a pane, and text.
- Hello and World should be in different colors.

Submit to Canvas:

Submit 1 zip file of all the files in your src folder. Name all your files clearly, so the grader can easily see which files are for each programming excercise.

Scoring rubric:

The following rubric will be used:

Criteria	**% Points**

Program works exactly as specified in the book, produces correct output for all input values tested, and incorporates a good coding style, naming conventions and comments.	100%
Program works exactly as specified in the book, produces correct output for all input values tested, but lacks a good coding style, naming conventions and/or comments.	80%
Program nearly works as specified in the book, and logic is present that will correctly solve the problem with minor modifications.	60%
Program does not work but sufficient logic is present that will solve the problem with some modifications.	40%
Some logic is present, but the program fails to solve the problem and major modifications are necessary to fix the program.	20%
Either no attempt was made, or the attempt made shows no progress toward solving the problem.	0%