

# **COMPUTER PROGRAMMING IN JAVA**

COLUMBIA UNIVERSITY HIGH SCHOOL SCIENCE HONORS PROGRAM

## Object Oriented Programming, Part 1

### Assignments

2007 Nov 10 Sat

#### Learning to Use Classes: Shapes

A Triangle and a Square class has been provided for you. Both of the classes has a main method, and in the Triangle class it instantiates 3 Triangle objects and prints them out. Do the same for the Square class. Lastly, use the provided Circle class by adding the following data members: a double for the radius, and a String for the color.

#### Methods

Add a method to each one of our three shape classes that returns the area.

#### Getters and Setters

Modify the three shape classes so that a circle can only be set to the colors blue, purple, or green, a triangle can only be purple, green, or yellow, and a square can only be green, yellow, or blue.

#### Constructors

Modify the existing constructor for Triangle so that you can also specify the color. Use this new constructor in the main method to significantly shorten the code. Implement constructors for Square and Circle as well, and apply them to their respective main methods.