

# COMPUTER PROGRAMMING IN JAVA

COLUMBIA UNIVERSITY HIGH SCHOOL SCIENCE HONORS PROGRAM

## Object Oriented Programming, Part 2

### Assignments

2008 Apr 05

#### Shapes v2.0: The OO Version

Overhaul the Shapes example with OO techniques:

1. Have Triangle, Shape, and Circle all inherit from class Shape
2. Override the calcPerimeter() method in each of the child classes.
3. Add a calcArea() method in the same fashion.

#### Dicejack v2.0: The OO Version

Try the same ideas with your Dicejack program. Some hints:

1. Instead of having a separate Dealer and Player class, make a parent class, and have the Dealer and a Player class inherit from it.
2. Make a "rollAgain(...)" method in the parent class, and have the child classes override it.
3. Make a Game class which represents an entire game. Add getters and setters so that you can get back the winner.
4. Make a driver class "Simulation" which represents an entire simulation, and uses all the other classes.

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.