CS 2530 Intermediate Computing
Spring 2017

HW9 - In Class Inheritance Activity

February 22, 2016

Grading Rubric
2pts – Updated UML Class diagram showing instance variables and methods.
3pts – Additional attributes and new/overridden methods identified.

We will review the BallWorld Class structure. In this activity we will create additional specialized classes.

Create the following classes:

AcceleratingBall
An AcceleratingBall will begin with an acceleration of 1 and accelerates each time it moves, up to its maximum acceleration. (Each time it moves it will move dx X acceleration and dy x acceleration)

ErraticBall
An ErraticBall is bounded by the JFrame it is in, but may randomly change direction each time it moves.

ColorChangingBall
A ColorChangingBall is bounded by the JFrame it is in, but every time it reverses direction it changes color.

BouncyBall
A BouncyBall is bounded by the JFrame it is in, but every time it reverses direction it speeds up, up to a maximum speed. Once it reaches its maximum speed it decreases speed down to a minimum speed, and then speeds up again.

SuperHappyFunBall
A SuperHappyFunBall is bounded by the JFrame it is in, and speeds up and slows down as a BouncyBall does. It also randomly changes color every time it moves.

Part 1 - Design
Update the UML design to include how these new classes will fit in the class hierarchy.

Part 2
For each new class, include any new instance variables, methods as well as any inherited methods that will be overridden.