Bouncing Balls

UML Class Diagrams

STEP 1: To draw 3 balls on the Form.

Form1
- graphics: Graphics - world: World
+ Form1() + timer1_Tick()

World
- balls: List<Ball>
+ World(Graphics graphics) + Run()

Ball
- SIZE: int =10 - position: Point - brush: Brush - graphics: Graphics
+ Ball(Point position, Color colour, Graphics graphics) + Draw()

STEP 2: Move the balls

Form1
- graphics: Graphics - world: World
+ Form1() + timer1_Tick()

World
- balls: List<Ball>
+ World(Graphics graphics) + Run()

Ball
- SIZE: int =10 - position: Point - velocity: point - brush: Brush - graphics: Graphics
+ Ball(Point position, Point velocity, Color colour, Graphics graphics) + Draw() + Move()

STEP 3: Bounce the balls off the sides of Form1

Form1
- graphics: Graphics - world: World
+ Form1() + timer1_Tick()

World
- balls: List<Ball>
+ World(Graphics graphics, Size boundaries) + Run()

Ball
- SIZE: int =10 - position: Point - velocity: point - brush: Brush - graphics: Graphics
+ Ball(Point position, Point velocity, Color colour, Graphics graphics, Size boundaries) + Draw() + Move() + Bounce()

STEP 4: Add double buffering.

See class handout.

STEP 5: Use trackbars to control speed of individual balls