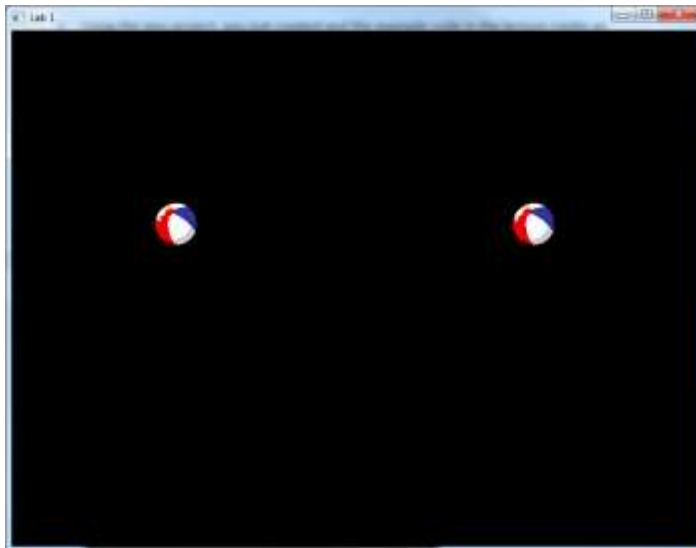


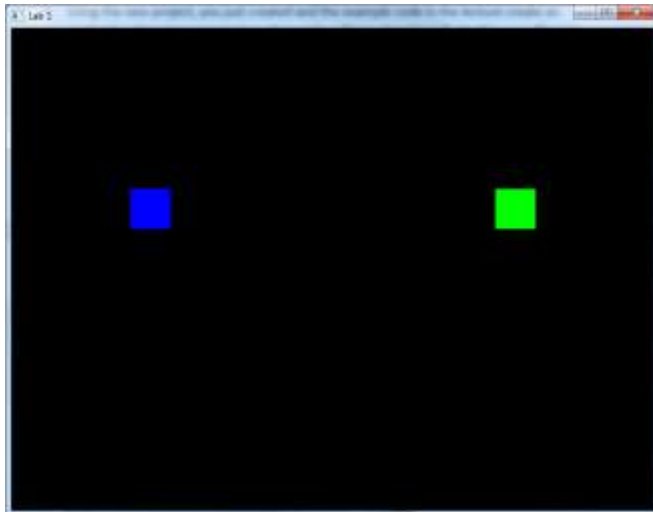
Lab 8 – Collision Detection

Download the example project *Lab 8 Code*, this contains a starter project and the collision class has been added to the framework folder. The collision class offers three collision checks: firstly, axis aligned bounding box checking collision between two game objects. Secondly, axis aligned bounding box checking collision between a game object and a position (Vector2). This is particularly useful for checking if the cursor collides with game elements. Thirdly, bounding circle that checks if two game objects are colliding.

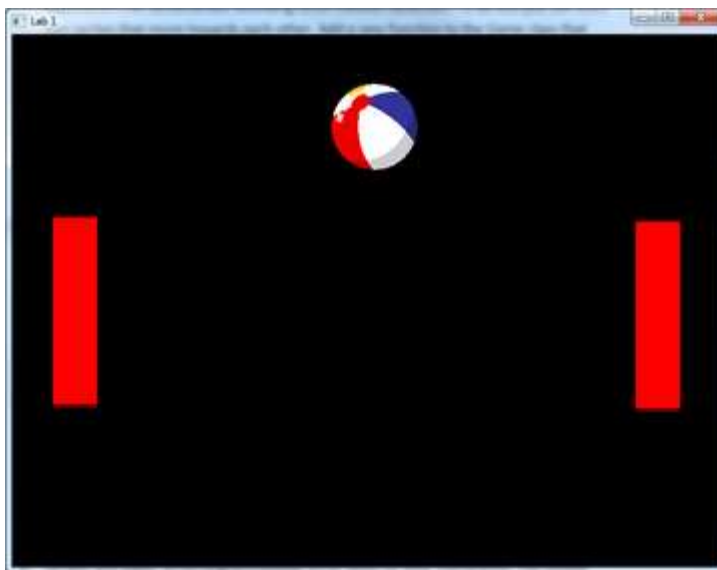
1. Using the downloaded project, and the example code in the lecture create an application that demonstrates bounding circle collision detection. To do this you will need two sprites that move towards each other. Add code to the `update()` function in the Level class to check if two Sprites are colliding, using the bounding circle function in the collision class (an example can be found in the lecture). If the sprites have collided, have the sprite's change movement direction bouncing away from each other.



2. Similar to the lecture example, build an application that has two sprites that move towards each other and bounce off each other, but use the AABB collision detection method rather than the bounding circle.



3. Using AABB build an application that is a simplified version of Pong. There should be two paddles either side of the screen that are user controlled (moving up and down). A ball sprite that bounces around the screen and bounces off of the paddles. If the ball reaches the left or right sides of the screen it should be reset to the centre of the window and continue to move.



4. With a pen and paper write/diagram/doodle some ideas for your coursework. You should consult the coursework brief and attempt to have a coursework design that meets as many of the requirements as possible. If you have concerns about your planned coursework being too complex or not complex enough use lab time to speak with staff about your idea.