Assignment 9 – Due **Wednesday Nov. 28**


Add the following functionality into the game:

1) **Ball death**: When the ball hits the bottom wall, player loses a life and ball is reset.

2) **Destroy bricks**: Once bricks are hit, they need to be removed from the game. You can either remove them from the brick list, or you can add a flag that marks them as dead and invisible. Collisions with bricks can be detected in the same way as collisions with walls and the paddle.

3) **Scoring**: Each time a brick is destroyed, add points to the score.

4) **Bounce off bricks**: The ball should bounce off bricks with physics similar to walls.

5) **Multiple kinds of bricks**: Use inheritance to add at least two new types of bricks. Some possible types:
   a. **Stronger bricks**: Bricks that require multiple hits before breaking. You might make them change color each time they are hit.
   b. **Changing bricks**: Bricks that change over time. For example, they might cycle between breakable and unbreakable states.
   c. **Power-up bricks**: Bricks that release a power-up. Power-ups fall downward when released, until they collide with the paddle or the bottom wall.

6) **Better paddle rebound**: Currently, there is no way to modify the velocity of the ball when it hits the paddle. Two possible ways to do this: (1) change the ball’s horizontal velocity, based on the distance from the collision to the middle of the paddle, (2) change the ball’s horizontal velocity based on the current velocity of the paddle.

7) **End of level**: Once all bricks are destroyed or all lives are lost, the game should pause and indicate that the level has ended.