Exercise: Dodgeball

Challenge

Modify the game so that the player dies if it is hit by one of the objects.

Suggestion

In `DodgeballData` the `evolve` method describes what happens every time step in the game. It doesn’t currently have any collision detection. The logical place to do the detection is after the player and ball have moved.

The way to check for collision is to ask the player if it collides with the ball, and ask the ball if it collides with the player. If either of these are true, then the game is over.

Here’s an example of how you might do that at the end of the `evolve` method:

```python
(px, py) = self.player.getPosition()
(pw, ph) = self.player.getSize()
(bx, by) = self.ball.getPosition()
(bw, bh) = self.ball.getSize()

if self.player.collides(bx, by, bw, bh) or self.ball.collides(px, py, pw, ph):
    self.game_over = True
```

To complete the end of the game code, you’ll need to create `self.game_over` and set it to `False` in the `newGame` method. You’ll also want to use an `if` statement at the beginning of the `evolve` method to check if `self.game_over` is `True`. If it is, `evolve` should `return` without allowing the player or ball to move.