(1) Fill in the ball class so that when the act method is called, the ball moves and reverses direction if it hits a wall. Assume the following methods:

boolean atWorldsEdge() – returns true if at the edge of the world (wall), false if not at edge. However, it does not tell you which edge you have hit.

```
public class Ball extends Actor
{
   private int radius = 10;
   private int width = radius * 2;
   private int dx = 0;
   private int dy = 3;

   public Ball()
   {
      dx = Greenfoot.getRandomNumber(2) + 2;
      if (Greenfoot.getRandomNumber(2) == 0)
         dx = -1 * dx;
      updateImage();
   }

   public void act()
   {
      BreakoutWorld world = (BreakoutWorld) getWorld();

      //Fill in your code here
   }
}
```

(2) Fill in the molecule class so that when the act method is called, if the width of the molecule is less than 200 then expand the size of the ball by 50%. If the size is greater than 200, add 2 new molecules to the world that are 25% of the current size of the molecule. Assume the following methods:

```
public class Molecule extends Actor
{
   private int width = 50;

   public void act()
   {
      MoleculeWorld world = (MoleculeWorld) getWorld();

      //Fill in your code here
   }
}
```

(3) Fill in the agent class so that when the act method is called, if the user selects the "r" key, the agent turns a random number of degrees between 1-15 to the right and if the "l" key is pressed, the agent turns a random number of degrees between 1-15 to the left. Assume the following methods:

void turnRight(int degrees) – turns the agent right the specified number of degrees.
void turnLeft(int degrees) – turns the agent left the specified number of degrees.

```java
public class Agent extends Actor
{
   public void act()
   {
     //Fill in your code here
   }
}
```

(4) Fill in the animal class so that when the act method is called, the animal will eat food if it finds it, if it is at the world's edge, it turns, if it sees an enemy, it turns the opposite way, but if it does none of these, it moves randomly. Assume the following methods:

boolean atWorldsEdge() – returns true if at the edge of the world, false if not at edge.
boolean foundFood() – returns true if food is found, false otherwise
void eatFood() – eats food if food is present at the same location as the animal
void turn (int degrees) – turns the animal the specified number of degrees
boolean seeEnemy() – returns true if sees an enemy, false otherwise
void move() – moves the animal a random number of steps forward

```java
public class Animal extends Actor
{
   public void act()
   {
     //Fill in your code here
   }

}
```

(5) Fill in the block class so that when the act method is called, if the color of the block is red, then 50% of the time the color of the block will change to blue. If the block is blue, then 25% of the time it will change to green. If the color is green, then 50% of the time, it changes to blue, and 50% of the time it changes to red.

```java
public class Block extends Actor
{
   private java.awt.Color  color = java.awt.Color.RED;

   public void act()
   {
     //Fill in your code here
   }
}
```