Grid World Part 2 Assignment Questions

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Set 2

1. The instance variable sideLength determines the side length of the square a BoxBug object will run.
2. The instance variable steps represents the amount of steps the bug has taken on one side of the square.
3. The corners of a square are 90 degrees. Since each turn is only 45 degrees, half of 90, it must be called twice for the bug to turn 90 degrees.
4. The BoxBug class inherits the Bug class, which has the move method.
5. The size of its square will always be the same because it was used in its constructor and there is no method to modify the private instance variable.
6. Yes, if it encounters an obstacle it will change its path in the same way as a Bug, but by turning 90 degrees instead of 45 degrees.
7. The value of steps will be zero whenever the bug turns.

Exercises

1. The circleBug forms a more circular pattern when compared to the BoxBug. This pattern consists of steps before adjusting its angle by 45 degrees. Turns of smaller degrees helps to keep its path circular.
2. Done.
3. Done.
4. Done
5. Steps:
   1. Create a new instance of the BoxBug class with a unique name, passing in an integer argument.
   2. If necessary, use the setColor instance method to change the color of the new BoxBug
   3. Add the BoxBug to the world to a random location by passing in only the BoxBug, or at a Location by passing both the Location and the BoxBug.
   4. Ensure to use the show method on the world object after adding the new BoxBug to it.