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AP Computer Science B

Mrs. Calinisan

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Do You Know? Set 5

1. Color, direction, location.
2. Blue, North.
3. Because an interface doesn’t allow a coder to declare or implement variables and methods, with an actor needs.
4. See below:
   1. No, it cannot. It will throw an IllegalStateException.
   2. No, it cannot. It will throw an IllegalStateException.
   3. Yes, it can do this. The program works when this change is implemented.
5. Use setDirection accordingly; setDirection(getDirection() + 90);

Do You Know? Set 6

1. if(!gr.isValid(next))

return false;

1. Actor neighbor = gr.get(next);

return (neighbor == null) || (neighbor instaceof Flower);

1. get and isValid, because these check to see that every location is either empty or contains an actor that can be replaced.
2. getAdjacentLocation because it finds the bugs next potential location.
3. getGrid, getLocation, getDirection.
4. The bug will terminate itself from the grid.
5. Yes, it is needed, because it keeps track of where the bug’s location is.
6. Because then you can see which bug dropped which flower.
7. It depends. If you call removeSelfFromGrid in the Bug move method, then yes. If you simply call removeSelfFromGrid, no.
8. Flower flower = new Flower(getColor());

Flower.putSelfInGrid(gr, loc);

1. 4 times, because each turn is 45 degrees.

Group Activity Answers

1. See below:
   1. Turn
   2. Turn
   3. Turn
   4. Turn and then remove the actor
   5. Turn and then remove the jumper
   6. One additional consideration is what would happen if the cell in front of the Jumper already contains an actor.
2. See below:
   1. Extend Actor.
   2. Yes, the Bug class.
   3. If I want to change some quality such as color, the yes. Otherwise, this should not be necessary.
   4. act.
   5. canJump, jump, and turn.
   6. Implement the jumper surrounded by various things (actors, flowers, rocks etc) and in various different grid locations to test.
3. See code in zip file.
4. See code in zip file.