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Do You Know?

1. Does the bug always move to a new location? Explain.

answer: No. The bug will move to a new front location when the front cell is empty or exist a flower.

2. In which direction does the bug move?

answer: Direction of forward motion.

3. What does the bug do if it does not move?

answer: It stop ant then turns right 45 degrees.

4. What does a bug leave behind when it moves?

answer: A flower.

5. What happens when the bug is at an edge of the grid? (Consider whether the bug is facing the edge as well as whether the bug is facing some other direction when answering this question.)

answer: The bug will turns right 45 degrees firstly, then if the bug can move forward, it will go on moving. If not, it will turns right 45 degrees again, until it can move forward.

6. What happens when a bug has a rock in the location immediately in front of it?

answer: It stop ant then turns right 45 degrees.

7. Does a flower move?

answer: No.

8. What behavior does a flower have?

answer: The color of the flower will slowly be darkened and finally will become black flower. The flower will stay the cell forever.

9. Does a rock move or have any other behavior?

answer: No.

10. Can more than one actor (bug, flower, rock) be in the same location in the grid at the same time?

answer: No.

Exercise

1. Test the setDirection method with the following inputs and complete the table, giving the compass direction each input represents.

    answer:

Degrees	Compass Direction
0	North
45	Northeast
90	East
135	Southeast
180	South
225	Southwest
270	West
315	Northwest
360	North

2. Move a bug to a different location using the moveTo method. In which directions can you move it? How far can you move it? What happens if you try to move the bug outside the grid?

    answer: I can move the bug inside the grid. If I try to move the bug outside the grid, it will crash and show a window to say it lead to a java.lang.IllegalArgumentException problem.

3. Change the color of a bug, a flower, and a rock. Which method did you use?

    answer: setColor method.

4. Move a rock on top of a bug and then move the rock again. What happened to the bug?

    answer: Move a rock on top of a bug, the bug will be covered by the rock ant can not see the bug only the rock. Then move the rock away, the cell will be empty, the bug will disappear.