

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

No, if the cell is exist and there is not a rock or other object except flower on it, the bug move forward, otherwise it will try to change its direction to move to a new location.

2.In which direction does the bug move?

It will try to move forward,move forward, if fail, it will change its direction.

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

It will turn 45 degrees to the right.

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

It leaves a flower which color is same to it in its old position.

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.)

If the bug is facing the edge and it is told to act, it will turn 45 degrees to the right.Again, it will turn 45 degrees to the right again. If the bug is facing the edge and it is told to move, the bug will disappear and leave a flower behind.

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

It will turn 45 degrees to the right.

7.Does a flower move?

No.

8.What behavior does a flower have?

It will become withered as time passed, its color will get darker until its color is dark blue.

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

No.

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

No. A location in the grid can contain only one actor at the same time.

Exercises

By clicking on a cell containing a bug, flower, or rock, do the following.

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

Degrees	Compass Direction
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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?

It doesn't change its direction after using the `moveTo` method to move it. I can move it to any valid location in the grid using the `moveTo` method. If I try to move the bug outside the grid, it will raise a `IllegalArgumentException`.

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

The `setColor` method.

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

Move a rock on top of a bug, the bug will disappear, then move the rock to other location, the grid become empty, it seems that the bug was removed.