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Pd.1

GridWorld Solutions

1.CircleBug:

import info.gridworld.actor.Bug;

public class CircleBug extends Bug {

private int steps;

private int sideLength;

public CircleBug(int n){

sideLength = n;

}

public void act(){

if (steps < sideLength && canMove()) {

move();

steps++;

}

else{

turn();

steps = 0;

}

}

}

2.SpiralBug:

import info.gridworld.actor.Bug;

public class SpiralBug extends Bug{

private int sideLength;

private int steps;

public SpiralBug(int n){

sideLength = n;

steps = 0;

}

public void act(){

if (steps < sideLength && canMove()){

move();

steps++;

}

else {

turn();

turn();

steps = 0;

sideLength++;

}

}

}

3.ZBug:

import info.gridworld.actor.Bug;

import info.gridworld.grid.Location;

public class ZBug extends Bug {

private int segmentLength;

private int steps;

private int segment;

public ZBug(int length) {

setDirection(Location.EAST);

steps = 0;

segment = 1;

segmentLength = length;

}

public void act() {

if (segment <= 3 && steps < segmentLength) {

if (canMove()) {

move();

steps++;

}

}

else if (segment == 1) {

setDirection(Location.SOUTHWEST);

steps = 0;

segment++;

}

else if (segment == 2) {

setDirection(Location.EAST);

steps = 0;

segment++;

}

}

}

4.DancingBug:

import info.gridworld.actor.Bug;

public class DancingBug extends Bug {

private int[] turnList;

private int currentStep;

public DancingBug(int[] turns) {

turnList = turns;

currentStep = 0;

}

public void turn(int times) {

for(int j = 1; j <= times; j++) {

turn();

}

}

public void act() {

if(currentStep == turnList.length) {

currentStep = 0;

turn (turnList[currentStep]);

currentStep++;

super.act();

}

}

}

5. Create a new BoxBug and then add it to a random or select location on the grid.