

```

public class Ant {
    private Cell position;

    private int weight;

    private Food food;

    @Override
    public String toString() {
        return "Ant[" + "position=" + position + ", weight=" + weight + ", food=" + food + "]";
    }

    public Ant() {
        this.position = null;
        this.weight = 0;
        this.food = food;
    }

    public Ant(Cell position, int weight, Food food) {
        this.position = position;
        this.weight = weight;
        this.food = food;
    }

    public void run() {
        System.out.println("Running...");
    }

    public void carryingFood() {
        System.out.println("Carrying...");
    }

    public void createPheromone() {
        System.out.println("Dropping pheromone...");
    }
}

```

```

public class AntEater {
    private Cell position;
    private int antEatenCounter;
    private int runCounter;
    private int state;

    public static void run() {
        System.out.println("Running...");
    }

    @Override
    public String toString() {
        return "AntEater[" + "position=" + position + ", antEatenCounter=" + antEatenCounter + ", runCounter=" + runCounter + ", state=" + state + "]";
    }

    public AntEater() {
        this.position = null;
        this.antEatenCounter = 0;
        this.runCounter = 0;
        this.state = 0;
    }

    public AntEater(Cell position, int antEatenCounter, int runCounter, int state) {
        this.position = position;
        this.antEatenCounter = antEatenCounter;
        this.runCounter = runCounter;
        this.state = state;
    }
}

```

```

public class Area {
    private int width;
    private int height;
    private int initNumberOfFoodFiles;
    private int tickDuration;

    private ArrayList<Cell> cells;
    private ArrayList<FoodFile> foodFile;
    private ArrayList<Colony> colonies;
    private ArrayList<AntEater> antEaters;

    public static void setup() {}

    public static void add(Colony colony) {}

    public static void add(AntEater antEater) {}

    public static void isAnyFoodRemaining() {}

    public static void getCell(int row, int col) {}

    @Override
    public String toString() {
        return "Area[" + "width=" + width + ", height=" + height + ", initNumberOfFoodFiles=" + initNumberOfFoodFiles + ", tickDuration=" + tickDuration + ", cells=" + cells + ", foodFile=" + foodFile + ", colonies=" + colonies + ", antEaters=" + antEaters + "]";
    }

    public Area() {
        this.width = 0;
        this.height = 0;
        this.initNumberOfFoodFiles = 0;
        this.tickDuration = 0;
        this.cells = null;
        this.foodFile = null;
        this.colonies = null;
        this.antEaters = null;
    }
}

```

```

public class Cell{
    private int row;
    private int col;

    public static void receivePheromone(PheromoneDrop pheromone){}

    public static List<Ant> getAnts(){
        ArrayList<Ant> ants =new ArrayList<>();

        return ants;
    }

    @Override
    public String toString() {
        return "Cell|" + "row=" + row + ", col=" + col + '|';
    }

    public Cell() {
        this.row = 0;
        this.col = 0;
    }

    public Cell(int row, int col) {
        this.row = row;
        this.col = col;
    }
}

```

```

//
public class Colony {
    private Nest nest;
    private ArrayList<Ant> ants;

    public void run() {
        System.out.println("Running");
    }

    public void lives() {
        System.out.println("Living");
    }

    @Override
    public String toString() {
        return "Colony|" + "nest=" + nest + ", ants=" + ants + '|';
    }

    public Colony() {
        this.nest = null;
        this.ants = null;
    }

    public Colony(Nest nest, ArrayList<Ant> ants) {
        this.nest = nest;
        this.ants = ants;
    }

    /**
     * @return the nest
     */
    public Nest getNest() {
        return nest;
    }
}

```

```

//
// @author Leonardo Yaranga, Progress Team, DCOO-ESPE
//
public class Food {
    private int amount; //not specified on DC

    public Food() {
        this.amount = 0;
    }

    public Food(int amount) {
        this.amount = amount;
    }

    @Override
    public String toString() {
        return "Food|" + "amount=" + getAmount() + '|';
    }
}

```

```

//
public class FoodFile{

    private int pileAmount; //not specified in DC
    private Cell position;

    public static Food yieldFood(int amount){
        Food food = new Food();
        return food;
    }

    public void createFood(){}

    public FoodFile() {
        this.pileAmount = 0;
        this.position = null;
    }

    public FoodFile(int pileAmount, Cell position) {
        this.pileAmount = pileAmount;
        this.position = position;
    }

    @Override
    public String toString() {
        return "FoodFile|" + "pileAmount=" + getPileAmount() + ", position=" + getPosition() + '|';
    }

    /**
     * @return the pileAmount
     */
    public int getPileAmount() {
        return pileAmount;
    }
}

```

```

/**
 *
 */
public class Nest {

    Cell position;

    ArrayList<Food> food;

    public Nest() {
        this.position = null;
        this.food = null;
    }

    public Nest(Cell position, ArrayList<Food> food) {
        this.position = position;
        this.food = food;
    }

    @Override
    public String toString() {
        return "Nest(" + "position=" + getPosition() + ", food=" + getFood() + ')';
    }

    /**
     * @return the position
     */
    public Cell getPosition() {
        return position;
    }
}

```

```

public class PheromoneDrop {

    int currentLevel;

    public static void run() {
    }

    public PheromoneDrop() {
        this.currentLevel = 0;
    }

    public PheromoneDrop(int currentLevel) {
        this.currentLevel = currentLevel;
    }

    @Override
    public String toString() {
        return "PheromoneDrop(" + "currentLevel=" + getCurrentLevel() + ')';
    }

    /**
     * @return the currentLevel
     */
    public int getCurrentLevel() {
        return currentLevel;
    }

    /**
     * @param currentLevel the currentLevel to set
     */
    public void setCurrentLevel(int currentLevel) {
        this.currentLevel = currentLevel;
    }
}

public class SimulatorDisplay {

    private Area area;

    public static void monitors(){
        System.out.println("Monitoring...");
    }

    @Override
    public String toString() {
        return "SimulatorDisplay(" + "area=" + area + ')';
    }

    public SimulatorDisplay() {
        this.area = null;
    }

    public SimulatorDisplay(Area area) {
        this.area = area;
    }

    /**
     * @return the area
     */
    public Area getArea() {
        return area;
    }
}

```

