

```
import info.gridworld.actor.*;
import info.gridworld.grid.*;
import info.gridworld.world.*;
import java.awt.Color;
```

```
public class PictureBug extends Bug
{
```

```
    int[][] pictureValues;
```

```
    public PictureBug()
```

```
    {
```

```
        super();
```

```
        //could have done with booleans, but 1's and 0's are shorter lol
```

```
        pictureValues = new int[][]{
```

```
            {0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0},
```

```
            {0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0},
```

```
            {0, 0, 1, 1, 0, 0, 1, 1, 0, 0, 0},
```

```
            {0, 0, 1, 1, 0, 0, 1, 1, 0, 0, 0},
```

```
            {0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0},
```

```
            {0, 1, 0, 0, 0, 0, 0, 0, 0, 1, 0},
```

```
            {0, 1, 0, 0, 0, 0, 0, 0, 0, 1, 0},
```

```
            {0, 0, 1, 1, 1, 1, 1, 1, 0, 0, 0},
```

```
            {0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0},
```

```
            {0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0}
```

```
        };
```

```
    }
```

```
    public void act(){
```

```
        Grid<Actor> gr = getGrid();
```

```
        Location loc = getLocation();
```

```
        //get bug to travel across entire grid, probably could have condensed this a
        little bit..
```

```
        if(loc.getRow() == 0){
```

```
            if(loc.getCol() == 0){
```

```
                setDirection(180);
```

```
                move();
```

```
            } else if(loc.getCol() == gr.getNumCols()-1){
```

```
                setDirection(270);
```

```
                move();
```

```
            } else if (getDirection() == 270){
```

```
                move();
```

```
            } else{
```

```
                setDirection(90);
```

```
                move();
```

```
                setDirection(180);
```

```
                move();
```

```
            }
```

```
        }
```

```
        else if(loc.getRow() == gr.getNumRows()-1){
```

```
            if(loc.getCol() == gr.getNumCols() -1){
```

```
        setDirection(0);
        move();
    } else if(getDirection() == 180){
        setDirection(90);
        move();
        setDirection(0);
        move();
    } else {
        move();
    }
} else move();
```

```
//make bug blue when in correct positions for picture, white otherwise
loc = getLocation();
if (pictureValues[loc.getRow()][loc.getCol()] == 1)
    setColor(Color.blue);
else
    setColor(Color.white);
```

```
}
```

```
//override move method
```

```
public void move() {
    Grid<Actor> gr = getGrid();
    if (gr == null) return;
    Location loc = getLocation();
    Location next = loc.getAdjacentLocation(getDirection());
    if (gr.isValid(next)) moveTo(next);
    else removeSelfFromGrid();
}
```

```
//only leave flowers where needed for picture
if (pictureValues[loc.getRow()][loc.getCol()] == 1) {
    Flower flower = new Flower(getColor());
    flower.putSelfInGrid(gr, loc);
}
```

```
}
```

```
}
```