Stage2 - Part2 Report of Coding Exercise

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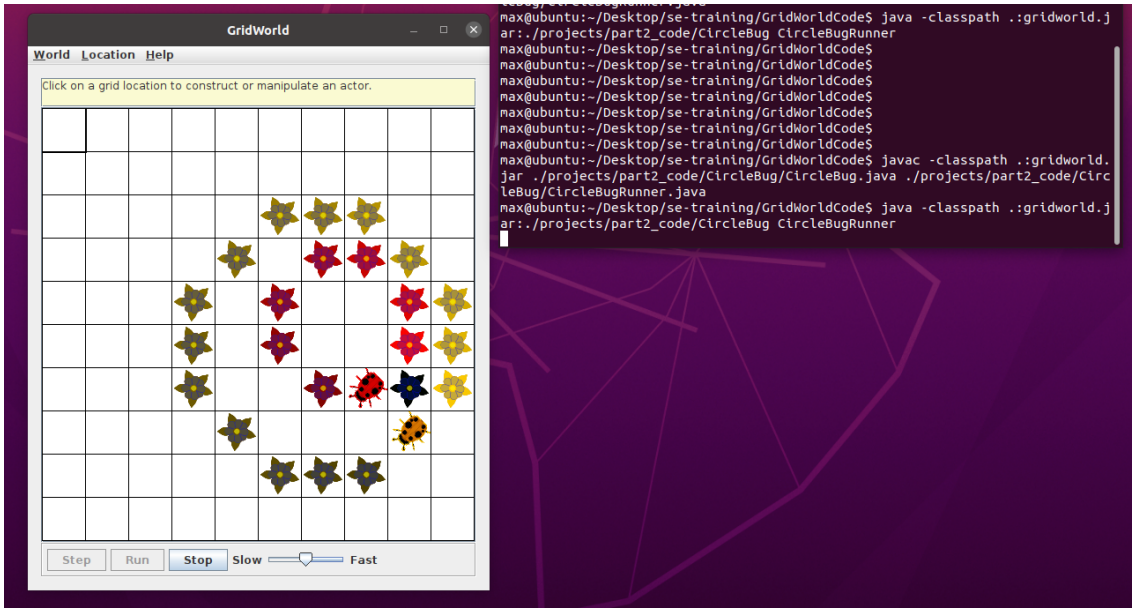
1. CircleBug

- 命令行编译运行命令：（在GridWorldCode下执行，代码位于`/project/part2_code`）

```
javac -classpath .:gridworld.jar
./projects/part2_code/CircleBug/CircleBug.java
./projects/part2_code/CircleBug/CircleBugRunner.java
java -classpath .:gridworld.jar:./projects/part2_code/CircleBug
CircleBugRunner
```

- 运行截图：可以看到 Alice（外圈）和Bob（内圈）都绕成一个圈（准确来说是正八边形）



2. SpiralBug

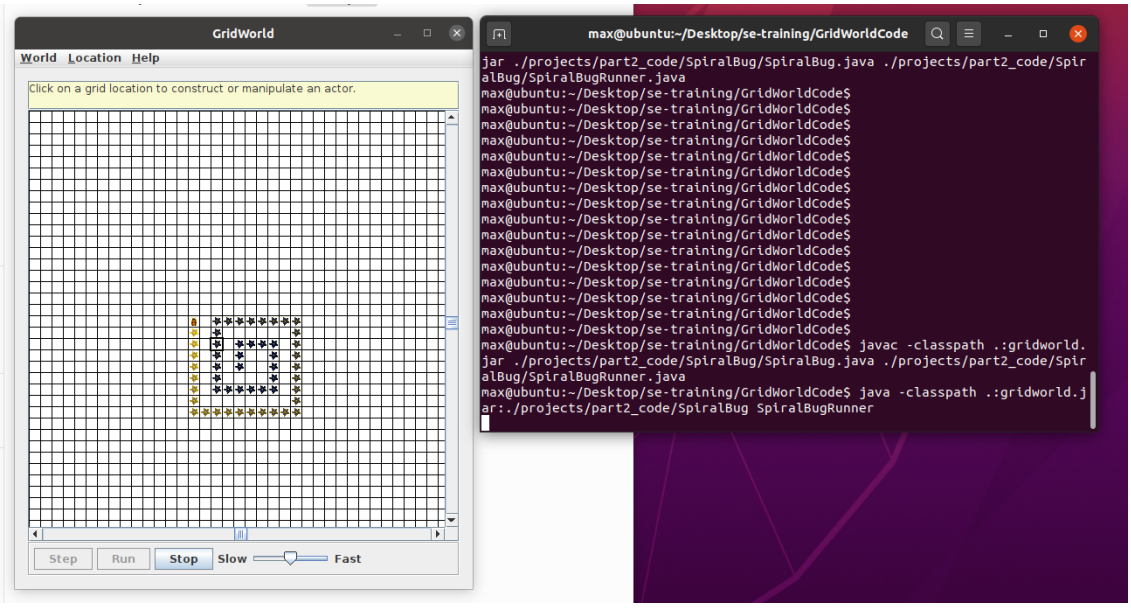
- 命令行编译运行命令：（在GridWorldCode下执行，代码位于`/project/part2_code`）

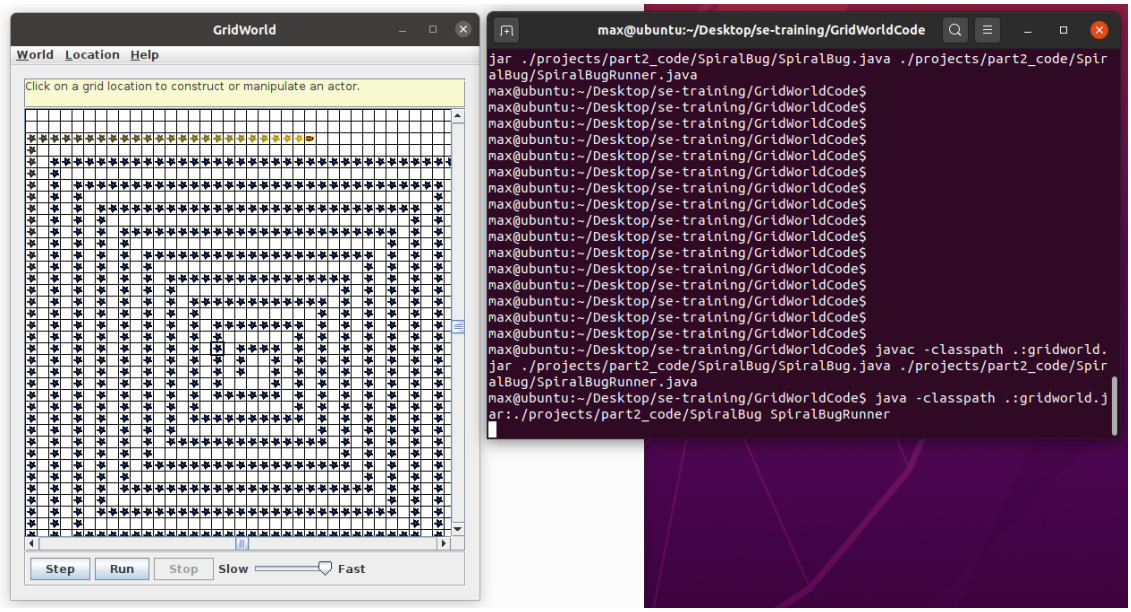
```
javac -classpath .:gridworld.jar
./projects/part2_code/SpiralBug/SpiralBug.java
./projects/part2_code/SpiralBug/SpiralBugRunner.java
java -classpath .:gridworld.jar:./projects/part2_code/SpiralBug
SpiralBugRunner
```

- 代码说明：通过以下代码生成一个没有边界的网格

```
// @file: SpiralBug/SpiralBugRunner.java
// @line: 14-15
Grid<Actor> grid = new UnboundedGrid<Actor>();
ActorWorld world = new ActorWorld(grid);
```

- 运行截图：可以看到 Alice 越绕越大。



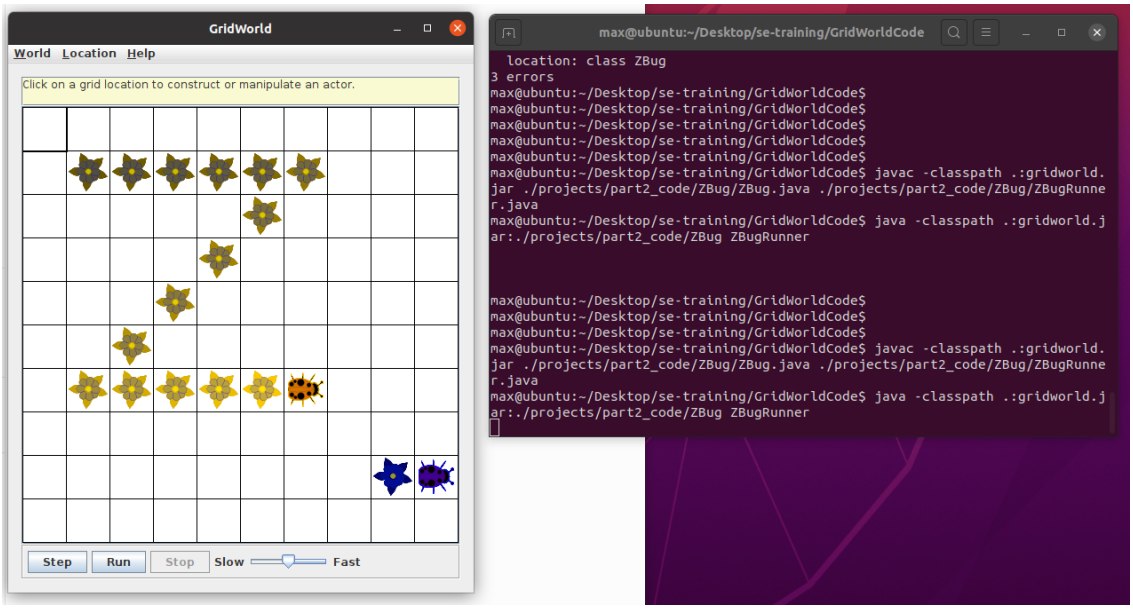


3. ZBug

- 命令行编译运行命令：（在GridWorldCode下执行，代码位于`/project/part2_code`）

```
javac -classpath .:gridworld.jar ./projects/part2_code/ZBug/ZBug.java ./projects/part2_code/ZBug/ZBugRunner.java
java -classpath .:gridworld.jar:./projects/part2_code/ZBug ZBugRunner
```

- 运行截图：可以看到 Alice（橙黄）完成了'Z'，而Bob（蓝色）由于触碰边界停止运动。

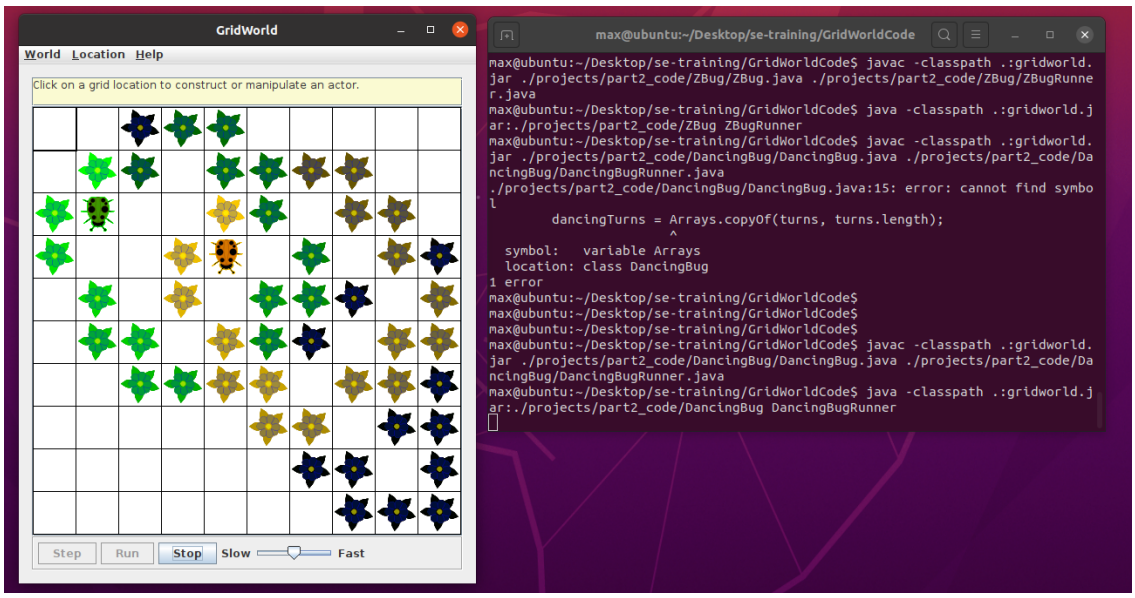


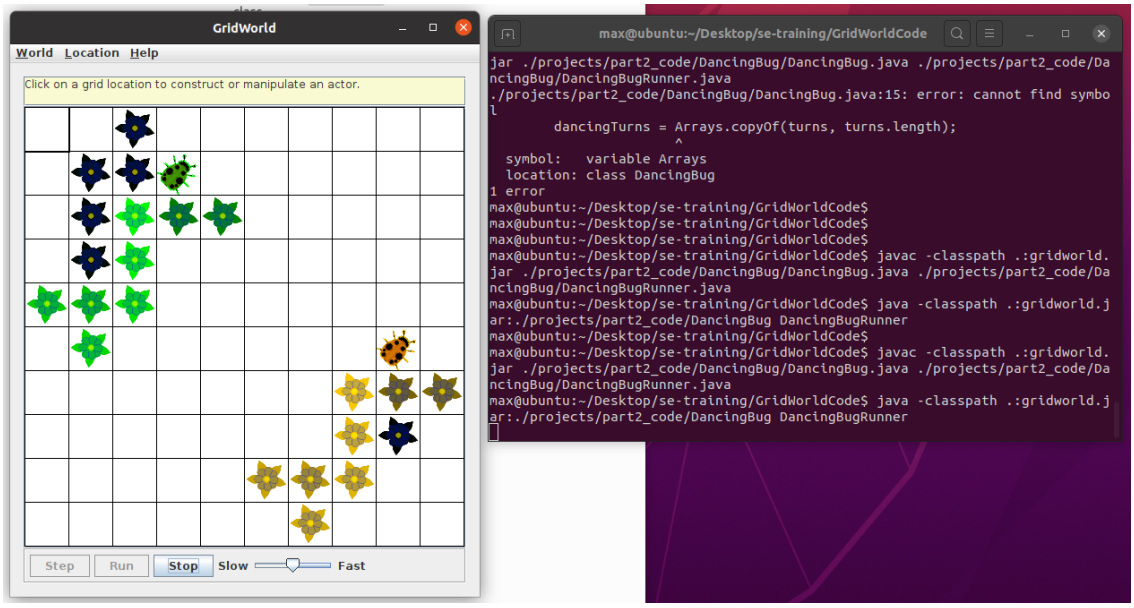
4. DancingBug

- 命令行编译运行命令：（在GridWorldCode下执行，代码位于`/project/part2_code`）

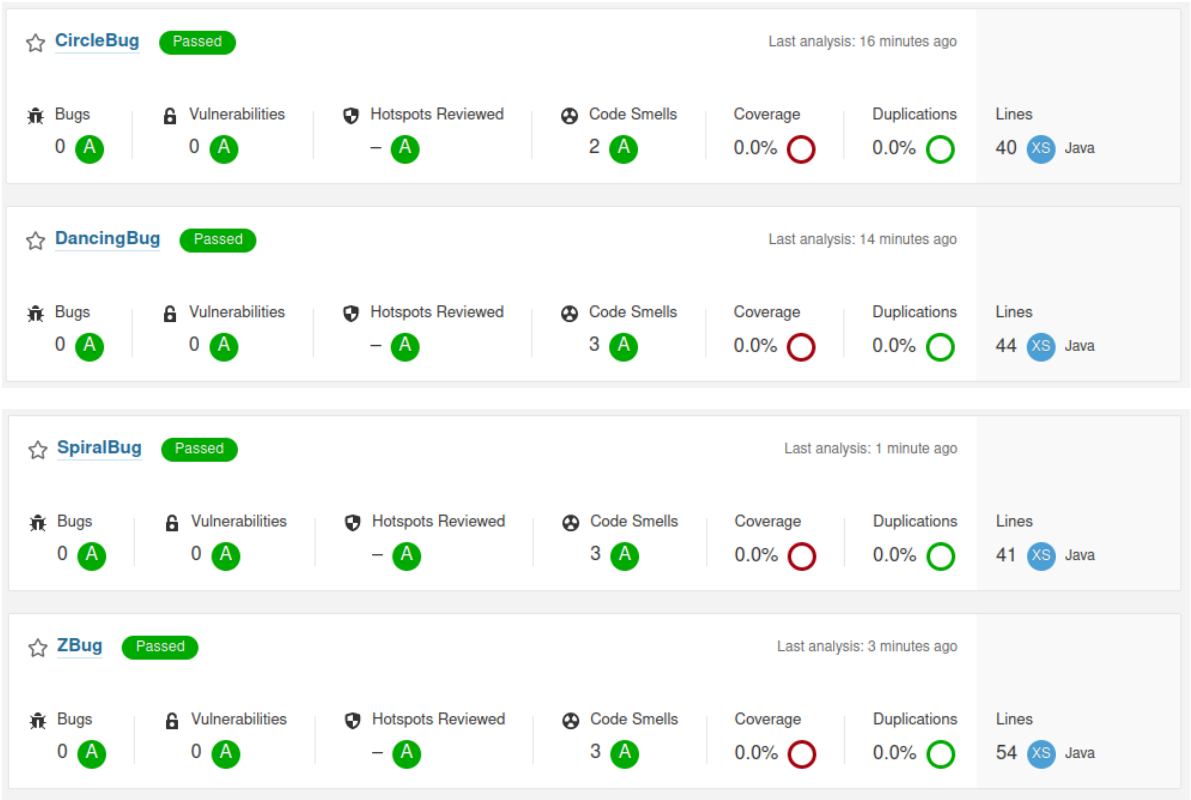
```
javac -classpath .:gridworld.jar
./projects/part2_code/DancingBug/DancingBug.java
./projects/part2_code/DancingBug/DancingBugRunner.java
java -classpath .:gridworld.jar:./projects/part2_code/DancingBug
DancingBugRunner
```

- 运行截图：两个实例的数组分别是：`{9,3,5,8,9}`和`{1,2,3,4,5,6,7,8}`，产生了不同的'舞步'。





- 上述四分代码使用 Sonar 测试结果：



5. Summar

向网格中添加一个 `BoxBug` 的三步骤：

1. 创建 BoxBug 对象：`BoxBug bug = new BoxBug(num)`
2. 为 Bug 对象设置属性，例如颜色：`bug.setColor(Color.xxx)`
3. 创建一个 Location 实例，将 Bug 对象添加到 ActorWorld 实例中：`world.add(new Location(num1, num2), bug);`