「モデリングとシミュレーション特論」課題（解答例)

2019/6/18

1 セルオートマトン交通流モデル

課題 1 Consider the Nagel-Schreckenberg (NaSch) Cellular Automaton traffic flow model. Files distributed at the lecture contains a project for the NaSch model. In the class file `model/Car.java`, the method `evalSpeed()` is not implemented. Complete the method and observe the fundamental diagram by running `observation/Flow.java` class.

解答例

Source Code 1 evalSpeed() method

```
public int evalSpeed(int headway) {
    speed = Math.min(maxSpeed, speed + 1);
    speed = Math.min(speed, headway − 1);
    if (Math.random() < decelerationProbability) {
        speed = Math.max(0, speed − 1);
    }
    return speed;
}
```