

# CSE 143X Section #8 Cheat Sheet

## Field (8.1) *(data inside each object)*

```
private type name;
```

## Method (8.2) *(behavior inside each object)*

```
public type name (parameters) {
    statements;
}
```

## Constructor (8.3) *(code to initialize new objects)*

```
public className (parameters) {
    statements;
}
```

## toString method (8.6) *(called when object is printed)*

```
public String toString() {
    code that produces & returns a String;
}
```

## Critter classes

```
public class name extends Critter {
    fields

    constructor

    public Color getColor() {
        statement(s) that return a Color (such as Color.GREEN);
    }

    public Action getMove(CritterInfo info) {
        statement(s) that return an Action;
    }

    public String toString() {
        statement(s) that return a String;
    }
}
```

The CritterInfo class has the following methods:

CritterInfo Method	Description
getFront(), getBack(), getLeft(), getRight()	returns one of Neighbor.WALL, Neighbor.EMPTY, Neighbor.SAME, Neighbor.OTHER
getDirection()	returns one of Direction.NORTH, Direction.SOUTH, Direction.EAST, Direction.WEST
frontThreat(), backThreat(), leftThreat(), rightThreat()	returns whether there is an enemy facing you, on a particular side of you

There are four constants that are of type Neighbor:

Constant	Description
Neighbor.WALL	The neighbor in that direction is a wall
Neighbor.EMPTY	The neighbor in that direction an empty square
Neighbor.SAME	The neighbor in that direction is a critter of your species
Neighbor.OTHER	The neighbor in that direction is a critter of another species

There are four constants that are of type Direction and four of type Action:

Constant	Description
Direction.NORTH	facing north
Direction.SOUTH	facing south
Direction.EAST	facing east
Direction.WEST	facing west

Constant	Description
Action.INFECT	Changes Critter in front to your species
Action.HOP	Moves Critter in direction its facing
Action.RIGHT	Turns Critter to face its right
Action.LEFT	Turns Critter to face its left