OOD Example

Karsten Droste
Ant Foraging
Objects

Ant
Field
Food Patch
Nest Patch
Food Pheromone
Nest Pheromone
Ant Responsibilities

- walkRandomly
- isDetecting
- takeFood
- dropFood
- followPheromone(p)

...
<table>
<thead>
<tr>
<th>Field / Patch Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>spreadPheromone</td>
</tr>
<tr>
<td>takePheromone</td>
</tr>
<tr>
<td>takeFood</td>
</tr>
<tr>
<td>dropFood</td>
</tr>
<tr>
<td>setupNest</td>
</tr>
<tr>
<td>setupFood</td>
</tr>
<tr>
<td>...</td>
</tr>
</tbody>
</table>
Field → * → Patch → Patch Content
Ant → 1 → Patch
Ant Behaviour
First Approach
WITH ERRORS
as Pseudocode

if isCarringFood()
    followPheromone(nestPheromone)
else
    if isDetecting(FoodPheromone)
        followPheromone(foodPheromone)
    else if isDetecting(Food)
        takeFood()
    else walkRandomly()
5 seconds of fame
homework

1. Design Correct Ant Behaviour