Code Tutorial
Aggregation Modelling

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Overview

This document will provide you with a follow-up information on the code material covering the 1st Assignment about Aggregation.

Aggregations Folder

The structure of the folder is very similar to the previously introduced flocking folder. It contains a file for the swarm type, Aggregation, a file for the agent type, Cockroach, and finally a parameter file. The description of the desired functionalities per file are described below.

aggregation.py

Contains the Aggregation class. The two basic functions you have to implement are:

- `__init()__`
  Initialize the aggregation swarm as a subclass of swarm, so it inherits all the methods from the Swarm class.
- `initialize()`
  This function should initialize the environment. You should create two aggregation areas as well as the containing object. Furthermore similarly to the Flocking implementation, you should add the cockroach agents to the environment.

cockroach.py

Contains the class Cockroach. The functions to be implemented are:

- `__init()__`
  Initialize the Cockroach class as a subclass of the Agent class.
- `change_state()`
  Enables the modification of the cockroach state.
- `site_behavior()`
  Defines when the agent joins and leaves an aggregate, for more detailed description see

the assignment 1. It should contain the probabilistic model in order to convey the desired behavior to the cockroach.

- `update_actions()`
  Describes how the agents interact with the aggregation sites and the constricted area

*Note that these are the minimal set of requirements and you are free to add more functions as long as their relevance is well justified.

config.toml

This file should specify:

i. the general settings of the simulation

ii. the specific Aggregation settings (the environment where they act)

iii. the specific Cockroach settings, such as the wandering force