CS 61A Ants Project Object Map

Notes/legend

Please keep in mind that this diagram contains no more information than what is available on the project spec. A working implementation may make use of helper methods that are not included in this diagram.

Orange indicates methods you must fill in and instance variables you must set

Red indicates classes, methods, and instance variables that you must implement from scratch

Place [2]
* **Class attributes**
is_hive = False
* **Instance attributes**
ant
bees
entrance
exit
name
* **Methods**
__init__(name, exit) [2]
add_insect(insect)
remove_insect(insect)

Water [10]
* **Class attributes**
* **Instance attributes**
* **Methods**
add_insect(insect) [10]

Insect [10]
* **Class attributes**
damage = 0
is_waterproof = False [10]
* **Instance attributes**
health
place
* **Methods**
__init__(health, place)
action(gamestate)
add_to(place)
zero_health_callback()
reduce_health(amount)
remove_from(place)

Bee [10][opt1]
? health
* **Class attributes**
name = 'Bee'
damage = 1
is_waterproof = True [10]
* **Instance attributes**
* **Methods**
sting(ant)
move_to(place)
blocked() [opt1]
action(gamestate)
add_to(place)
remove_from(place)

Ant [8b][opt1]
* **Class attributes**
blocks_path = True [opt1]
food_cost = 0
implemented = False
is_container = False
* **Instance attributes**
* **Methods**
__init__(health)
add_to(place) [8b]
can_contain(other)
store_ant(other)
remove_ant(other)
remove_from(place)

HarvesterAnt [1]
1 health
* **Class attributes**
food_cost = 2
implemented = True
name = 'Harvester'
* **Instance attributes**
* **Methods**
action(gamestate) [1]

ThrowerAnt [1][3][4]
1 health
* **Class attributes**
damage = 1
food_cost = 3
implemented = True
upper_bound = ___ [4]
lower_bound = ___ [4]
name = 'Thrower'
* **Instance attributes**
* **Methods**
action(gamestate)
nearest_bee() [3][4]
throw_at(target)

FireAnt [5]
3 health
* **Class attributes**
damage = 3
food_cost = 5
implemented = True
name = 'Fire'
* **Instance attributes**
* **Methods**
__init__(health)
reduce_health(amount) [5]

WallAnt [6]
4 health
* **Class attributes**
food_cost = 4 [6]
implemented = True [6]
name = 'Wall' [6]
* **Instance attributes**
* **Methods**
__init__(health) [6]

HungryAnt [7]
1 health
* **Class attributes**
chew_cooldown = 3 [7]
food_cost = 4 [7]
implemented = True [7]
name = 'Hungry' [7]
* **Instance attributes**
cooldown [7]
* **Methods**
action(gamestate) [7]

ContainerAnt [8a]
* **Class attributes**
is_container = True
* **Instance attributes**
ant_contained
* **Methods**
__init__(health)
action(gamestate) [8a]
can_contain(other) [8a]
remove_ant(ant)
remove_from(place)
store_ant(ant) [8a]

NinjaAnt [opt1]
1 health
* **Class attributes**
blocks_path = False [opt1]
damage = 1
food_cost = 5
implemented = True
name = 'Ninja'
* **Instance attributes**
* **Methods**
action(gamestate) [opt1]

ShortThrower [4]
1 health
* **Class attributes**
food_cost = 2
implemented = True
upper_bound = 3 [4]
name = 'Short'
* **Instance attributes**
* **Methods**

LongThrower [4]
1 health
* **Class attributes**
food_cost = 2
implemented = True
lower_bound = 5 [4]
name = 'Long'
* **Instance attributes**
* **Methods**

ScubaThrower [11]
1 health
* **Class attributes**
food_cost = 6 [11]
implemented = True [11]
is_waterproof = True [11]
name = 'Scuba' [11]
* **Instance attributes**
* **Methods**

LaserAnt [opt2]
1 health
* **Class attributes**
food_cost = 10
implemented = True [opt2]
name = 'Laser'
* **Instance attributes**
* **Methods**
__init__(health)
action(gamestate)
calculate_damage(distance) [opt2]
insects_in_front() [opt2]

ProtectorAnt [8c]
2 health
* **Class attributes**
food_cost = 4
implemented = True [8c]
name = 'Protector'
* **Instance attributes**
* **Methods**
__init__(health) [8c]

TankAnt [9]
2 health
* **Class attributes**
damage = 1 [9]
food_cost = 6 [9]
implemented = True [9]
name = 'Tank' [9]
* **Instance attributes**
* **Methods**
__init__(health) [9]
action(gamestate) [9]

QueenAnt [12]
1 health
* **Class attributes**
food_cost = 7
implemented = True
name = 'Queen'
* **Instance attributes**
* **Methods**
action(gamestate) [12]
reduce_health(amount) [12]