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

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Place [2]

* Class attributes
ant
bees
entrance
exit
name

* Instance attributes
is_hive = False

* 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)
death_callback()
reduce_health(amount)
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)

Bee [10][opt1]
? health

* Class attributes
name = 'Bee'
damage = 1
is_waterproof = True [10]

* Instance attributes

* Methods
sting(ant)
move_to(place)
blocked(self) [opt1]
action(gamestate)
add_to(place)
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(beehive) [3][4]
throw_at(target)

FireAnt [5]
3 health

* Class attributes
damage = 3
food_cost = 5
implemented = True [5]
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
chewing_turns = 3 [7]
food_cost = 4 [7]
implemented = True [7]
name = 'Hungry' [7]

* Instance attributes
turns_to_chew [7]

* Methods
action(gamestate) [7]

ContainerAnt [8a]

* Class attributes
is_container = True

* Instance attributes
ant_contained

* Methods
__init__(*args, **kwargs)
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

SlowThrower [13]
1 health

* Class attributes
food_cost = 4
implemented = True [13]
name = 'Slow' [13]

* Instance attributes

* Methods
throw_at(target) [13]

LaserAnt [opt2]
1 health

* Class attributes
food_cost = 10
implemented = True [opt2]
name = 'Laser'

* Instance attributes

* Methods
action(gamestate)
calculate_damage(distance) [opt2]
insects_in_front(beehive) [opt2]

QueenAnt [12]
1 health

* Class attributes
food_cost = 7
implemented = True
name = 'Queen'

* Instance attributes

* Methods
__init__(health) [12]
action(gamestate) [12]
reduce_health(amount) [12]

BodyguardAnt [8c]
2 health

* Class attributes
food_cost = 2
implemented = True [8c]
name = 'Bodyguard'

* 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]