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)

Bee [10][opt1][opt2]
? 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)
slow(length) [opt2]
scare(length) [opt2]
apply_status(status,
    previous_action, length) [opt2]

Ant [8][opt1]

* **Class attributes**
blocks_path = True [opt1]
food_cost = 0
implemented = False
is_container = False

* **Instance attributes**

* **Methods**
__init__(health)
add_to(place) [8]
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
max_range = ___ [4]
min_range = ___ [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
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_duration = 3 [7]
food_cost = 4 [7]
implemented = True [7]
name = 'Hungry' [7]

* **Instance attributes**
chew_countdown [7]

* **Methods**
action(gamestate) [7]

ContainerAnt [8]

* **Class attributes**
is_container = True

* **Instance attributes**
ant_contained

* **Methods**
__init__(*args, **kwargs)
action(gamestate) [8]
can_contain(other) [8]
remove_ant(ant)
remove_from(place)
store_ant(ant) [8]

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
max_range = 3 [4]
name = 'Short'

* **Instance attributes**

* **Methods**

LongThrower [4]
1 health

* **Class attributes**
food_cost = 2
implemented = True
min_range = 4 [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 [opt2]
1 health

* **Class attributes**
food_cost = 4
implemented = True [opt2]
name = 'Slow' [opt2]

* **Instance attributes**

* **Methods**
throw_at(target) [opt2]

ScaryThrower [opt2]
1 health

* **Class attributes**
food_cost = 6
implemented = True [opt2]
name = 'Scary' [opt2]

* **Instance attributes**

* **Methods**
throw_at(target) [opt2]

LaserAnt [opt3]
1 health

* **Class attributes**
food_cost = 10
implemented = True [opt3]
name = 'Laser'

* **Instance attributes**

* **Methods**
action(gamestate)
calculate_damage(distance) [opt3]
insects_in_front(beehive) [opt3]

BodyguardAnt [8]
2 health

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

* **Instance attributes**

* **Methods**
__init__(health) [8]

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 [EC]
1 health

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

* **Instance attributes**

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