COS30002

Lab Report – Task 5 (28/3/2021)

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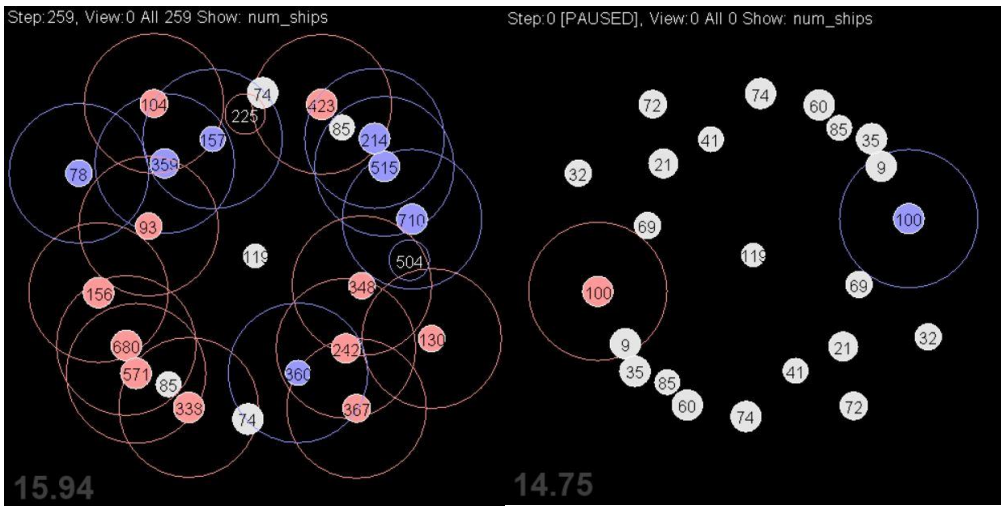
- Installed Pyglet
- Downloaded Planet Wars
- Familiarised myself with how Planet Wars works
- Created “Rando” the bot that makes random moves
- Learnt about Pythons Lambda function
- Created a bot that attacks the weakest planet
- Created a bot that attacks the strongest planet
- Created a bot that randomly picks the strongest or weakest planet to attack



Bot Code

Rando:

```
from random import choice

class Rando(object):
    def update(self, gameinfo):
        pass
        # only send one fleet at a time
        if gameinfo.my_fleets:
            return
            # check if we should attack
        if gameinfo.my_planets and gameinfo.not_my_planets:
            # # select random target and destination
            dest = choice(list(gameinfo.not_my_planets.values()))
            src = choice(list(gameinfo.my_planets.values()))
                 # launch new fleet if there's enough ships
            if src.num_ships > 10:
                gameinfo.planet_order(src, dest, int(src.num_ships * 0.75) )
```

Strategist:

```
from random import choice, randint, randrange

class Strategist(object):
    def update(self, gameinfo):
        pass
        # only send one fleet at a time
        if gameinfo.my_fleets:
            return
            # check if we should attack
        if gameinfo.my_planets and gameinfo.not_my_planets:
            #target either the planet with the lowest or highest amount of shi
ps
            strategy = randrange(2)
            if strategy == 0:
                dest = min(gameinfo.not_my_planets.values(), key=lambda p: p.n
um_ships)
            else:
                dest = max(gameinfo.not_my_planets.values(), key=lambda p: p.n
um_ships)

            src = choice(list(gameinfo.my_planets.values()))
                 # launch new fleet if there's enough ships
            if src.num_ships > 10:
                gameinfo.planet_order(src, dest, int(src.num_ships * 0.75) )
```