MP5-Double

April 30, 2023

1 Deep Q-Learning

Install dependencies for AI gym to run properly (shouldn't take more than a minute). If running on google cloud or running locally, only need to run once. Colab may require installing everytime the vm shuts down.

```
[ ]: !pip3 install gym pyvirtualdisplay
     !sudo apt-get install -y xvfb python-opengl ffmpeg
```

```
[ ]: !pip3 install --upgrade setuptools --user
     !pip3 install ez_setup
     !pip3 install gym[atari]
     !pip3 install gym[accept-rom-license]
```

For this assignment we will implement the Deep Q-Learning algorithm with Experience Replay as described in breakthrough paper **"Playing Atari with Deep Reinforcement Learning"**. We will train an agent to play the famous game of **Breakout**.

```
[1]: %load_ext autoreload
     %autoreload 2
```

```
[2]: %matplotlib inline
     import sys
     import gym
     import torch
     import pylab
     import random
     import numpy as np
     from collections import deque
     from datetime import datetime
     from copy import deepcopy
     import torch.nn as nn
     import torch.optim as optim
     import torch.nn.functional as F
     from torch.autograd import Variable
     from utils import find_max_lives, check_live, get_frame, get_init_state
     from model import DQN
     from config import *
```

```python
import matplotlib.pyplot as plt
```

1.1   Understanding the environment

In the following cell, we initialize our game of **Breakout** and you can see how the environment looks like. For further documentation of the of the environment refer to https://www.gymlibrary.dev/environments/atari/breakout/.

In breakout, we will use 3 actions "fire", "left", and "right". "fire" is only used to reset the game when a life is lost, "left" moves the agent left and "right" moves the agent right.

```python
[3]: env = gym.make('BreakoutDeterministic-v4')
     state = env.reset()
```

```
A.L.E: Arcade Learning Environment (version 0.8.1+53f58b7)
[Powered by Stella]
```

```python
[4]: number_lives = find_max_lives(env)
     state_size = env.observation_space.shape
     action_size = 3 #fire, left, and right
```

1.2   Creating a DQN Agent

Here we create a DQN Agent. This agent is defined in the **agent.py**. The corresponding neural network is defined in the **model.py**. Once you've created a working DQN agent, use the code in agent.py to create a double DQN agent in **agent_double.py**. Set the flag "double_dqn" to True to train the double DQN agent.

Evaluation Reward : The average reward received in the past 100 episodes/games.

Frame : Number of frames processed in total.

Memory Size : The current size of the replay memory.

```python
[5]: double_dqn = True # set to True if using double DQN agent

     if double_dqn:
         from agent_double import Agent
     else:
         from agent import Agent

     agent = Agent(action_size)
     evaluation_reward = deque(maxlen=evaluation_reward_length)
     frame = 0
     memory_size = 0
```

1.2.1 Main Training Loop

In this training loop, we do not render the screen because it slows down training signficantly. To watch the agent play the game, run the code in next section "Visualize Agent Performance"

```python
rewards, episodes = [], []
best_eval_reward = 0
for e in range(EPISODES):
    done = False
    score = 0

    history = np.zeros([5, 84, 84], dtype=np.uint8)
    step = 0
    state = env.reset()
    next_state = state
    life = number_lives

    get_init_state(history, state, HISTORY_SIZE)

    while not done:
        step += 1
        frame += 1

        # Perform a fire action if ball is no longer on screen to continue onto
 ↪next life
        if step > 1 and len(np.unique(next_state[:189] == state[:189])) < 2:
            action = 0
        else:
            action = agent.get_action(np.float32(history[:4, :, :]) / 255.)
        state = next_state
        next_state, reward, done, _, info = env.step(action + 1)

        frame_next_state = get_frame(next_state)
        history[4, :, :] = frame_next_state
        terminal_state = check_live(life, info['lives'])

        life = info['lives']
        r = reward

        # Store the transition in memory
        agent.memory.push(deepcopy(frame_next_state), action, r, terminal_state)
        # Start training after random sample generation
        if(frame >= train_frame):
            agent.train_policy_net(frame)
            # Update the target network only for Double DQN only
            if double_dqn and (frame % update_target_network_frequency)== 0:
                agent.update_target_net()
        score += reward
```

```python
        history[:4, :, :] = history[1:, :, :]

        if done:
            evaluation_reward.append(score)
            rewards.append(np.mean(evaluation_reward))
            episodes.append(e)
            pylab.plot(episodes, rewards, 'b')
            pylab.xlabel('Episodes')
            pylab.ylabel('Rewards')
            pylab.title('Episodes vs Reward')
            pylab.savefig("./save_graph/breakout_double_dqn.png") # save graph
⌃for training visualization

            # every episode, plot the play time
            print("epis:", e, "  score:", score, "  mem len:",
                    len(agent.memory), "  epsilon:", round(agent.epsilon, 4), "  ⌃
⌃steps:", step,
                    "  lr:", round(agent.optimizer.param_groups[0]['lr'], 7), "  ⌃
⌃  reward:", round(np.mean(evaluation_reward), 2))

            # if the mean of scores of last 100 episode is bigger than 5 save⌃
⌃model
            ### Change this save condition to whatever you prefer ###
            if np.mean(evaluation_reward) > 5 and np.mean(evaluation_reward) >⌃
⌃best_eval_reward:
                torch.save(agent.policy_net, "./save_model/breakout_double_dqn.
⌃pth")
                best_eval_reward = np.mean(evaluation_reward)
```

```
/tmp/ipykernel_243996/1886764261.py:20: VisibleDeprecationWarning: Creating an
ndarray from ragged nested sequences (which is a list-or-tuple of lists-or-
tuples-or ndarrays with different lengths or shapes) is deprecated. If you meant
to do this, you must specify 'dtype=object' when creating the ndarray.
  if step > 1 and len(np.unique(next_state[:189] == state[:189])) < 2:
/tmp/ipykernel_243996/1886764261.py:20: DeprecationWarning: elementwise
comparison failed; this will raise an error in the future.
  if step > 1 and len(np.unique(next_state[:189] == state[:189])) < 2:

epis: 0   score: 1.0   mem len: 151   epsilon: 1.0     steps: 151    lr: 0.0001
reward: 1.0
epis: 1   score: 1.0   mem len: 322   epsilon: 1.0     steps: 171    lr: 0.0001
reward: 1.0
epis: 2   score: 0.0   mem len: 445   epsilon: 1.0     steps: 123    lr: 0.0001
reward: 0.67
epis: 3   score: 3.0   mem len: 691   epsilon: 1.0     steps: 246    lr: 0.0001
reward: 1.25
epis: 4   score: 0.0   mem len: 814   epsilon: 1.0     steps: 123    lr: 0.0001
```

```
reward: 1.0
epis: 5    score: 0.0    mem len: 937    epsilon: 1.0    steps: 123    lr: 0.0001
reward: 0.83
epis: 6    score: 3.0    mem len: 1163    epsilon: 1.0    steps: 226    lr: 0.0001
reward: 1.14
epis: 7    score: 1.0    mem len: 1332    epsilon: 1.0    steps: 169    lr: 0.0001
reward: 1.12
epis: 8    score: 3.0    mem len: 1598    epsilon: 1.0    steps: 266    lr: 0.0001
reward: 1.33
epis: 9    score: 0.0    mem len: 1720    epsilon: 1.0    steps: 122    lr: 0.0001
reward: 1.2
epis: 10    score: 1.0    mem len: 1871    epsilon: 1.0    steps: 151    lr: 0.0001
reward: 1.18
epis: 11    score: 6.0    mem len: 2224    epsilon: 1.0    steps: 353    lr: 0.0001
reward: 1.58
epis: 12    score: 2.0    mem len: 2443    epsilon: 1.0    steps: 219    lr: 0.0001
reward: 1.62
epis: 13    score: 1.0    mem len: 2613    epsilon: 1.0    steps: 170    lr: 0.0001
reward: 1.57
epis: 14    score: 3.0    mem len: 2858    epsilon: 1.0    steps: 245    lr: 0.0001
reward: 1.67
epis: 15    score: 3.0    mem len: 3101    epsilon: 1.0    steps: 243    lr: 0.0001
reward: 1.75
epis: 16    score: 1.0    mem len: 3272    epsilon: 1.0    steps: 171    lr: 0.0001
reward: 1.71
epis: 17    score: 2.0    mem len: 3451    epsilon: 1.0    steps: 179    lr: 0.0001
reward: 1.72
epis: 18    score: 1.0    mem len: 3620    epsilon: 1.0    steps: 169    lr: 0.0001
reward: 1.68
epis: 19    score: 0.0    mem len: 3742    epsilon: 1.0    steps: 122    lr: 0.0001
reward: 1.6
epis: 20    score: 2.0    mem len: 3940    epsilon: 1.0    steps: 198    lr: 0.0001
reward: 1.62
epis: 21    score: 0.0    mem len: 4063    epsilon: 1.0    steps: 123    lr: 0.0001
reward: 1.55
epis: 22    score: 2.0    mem len: 4244    epsilon: 1.0    steps: 181    lr: 0.0001
reward: 1.57
epis: 23    score: 0.0    mem len: 4366    epsilon: 1.0    steps: 122    lr: 0.0001
reward: 1.5
epis: 24    score: 0.0    mem len: 4488    epsilon: 1.0    steps: 122    lr: 0.0001
reward: 1.44
epis: 25    score: 0.0    mem len: 4610    epsilon: 1.0    steps: 122    lr: 0.0001
reward: 1.38
epis: 26    score: 1.0    mem len: 4779    epsilon: 1.0    steps: 169    lr: 0.0001
reward: 1.37
epis: 27    score: 1.0    mem len: 4930    epsilon: 1.0    steps: 151    lr: 0.0001
reward: 1.36
epis: 28    score: 2.0    mem len: 5148    epsilon: 1.0    steps: 218    lr: 0.0001
```

```
reward: 1.38
epis: 29    score: 1.0    mem len: 5317    epsilon: 1.0    steps: 169    lr: 0.0001
reward: 1.37
epis: 30    score: 0.0    mem len: 5440    epsilon: 1.0    steps: 123    lr: 0.0001
reward: 1.32
epis: 31    score: 1.0    mem len: 5609    epsilon: 1.0    steps: 169    lr: 0.0001
reward: 1.31
epis: 32    score: 3.0    mem len: 5875    epsilon: 1.0    steps: 266    lr: 0.0001
reward: 1.36
epis: 33    score: 1.0    mem len: 6026    epsilon: 1.0    steps: 151    lr: 0.0001
reward: 1.35
epis: 34    score: 0.0    mem len: 6148    epsilon: 1.0    steps: 122    lr: 0.0001
reward: 1.31
epis: 35    score: 1.0    mem len: 6298    epsilon: 1.0    steps: 150    lr: 0.0001
reward: 1.31
epis: 36    score: 2.0    mem len: 6518    epsilon: 1.0    steps: 220    lr: 0.0001
reward: 1.32
epis: 37    score: 1.0    mem len: 6669    epsilon: 1.0    steps: 151    lr: 0.0001
reward: 1.32
epis: 38    score: 2.0    mem len: 6886    epsilon: 1.0    steps: 217    lr: 0.0001
reward: 1.33
epis: 39    score: 5.0    mem len: 7210    epsilon: 1.0    steps: 324    lr: 0.0001
reward: 1.42
epis: 40    score: 2.0    mem len: 7409    epsilon: 1.0    steps: 199    lr: 0.0001
reward: 1.44
epis: 41    score: 1.0    mem len: 7560    epsilon: 1.0    steps: 151    lr: 0.0001
reward: 1.43
epis: 42    score: 0.0    mem len: 7683    epsilon: 1.0    steps: 123    lr: 0.0001
reward: 1.4
epis: 43    score: 3.0    mem len: 7952    epsilon: 1.0    steps: 269    lr: 0.0001
reward: 1.43
epis: 44    score: 2.0    mem len: 8149    epsilon: 1.0    steps: 197    lr: 0.0001
reward: 1.44
epis: 45    score: 7.0    mem len: 8537    epsilon: 1.0    steps: 388    lr: 0.0001
reward: 1.57
epis: 46    score: 2.0    mem len: 8752    epsilon: 1.0    steps: 215    lr: 0.0001
reward: 1.57
epis: 47    score: 1.0    mem len: 8920    epsilon: 1.0    steps: 168    lr: 0.0001
reward: 1.56
epis: 48    score: 2.0    mem len: 9117    epsilon: 1.0    steps: 197    lr: 0.0001
reward: 1.57
epis: 49    score: 2.0    mem len: 9336    epsilon: 1.0    steps: 219    lr: 0.0001
reward: 1.58
epis: 50    score: 3.0    mem len: 9579    epsilon: 1.0    steps: 243    lr: 0.0001
reward: 1.61
epis: 51    score: 1.0    mem len: 9750    epsilon: 1.0    steps: 171    lr: 0.0001
reward: 1.6
epis: 52    score: 2.0    mem len: 9950    epsilon: 1.0    steps: 200    lr: 0.0001
```

```
reward: 1.6
epis: 53    score: 4.0   mem len: 10245   epsilon: 1.0    steps: 295    lr:
0.0001      reward: 1.65
epis: 54    score: 6.0   mem len: 10641   epsilon: 1.0    steps: 396    lr:
0.0001      reward: 1.73
epis: 55    score: 0.0   mem len: 10764   epsilon: 1.0    steps: 123    lr:
0.0001      reward: 1.7
epis: 56    score: 2.0   mem len: 10961   epsilon: 1.0    steps: 197    lr:
0.0001      reward: 1.7
epis: 57    score: 0.0   mem len: 11084   epsilon: 1.0    steps: 123    lr:
0.0001      reward: 1.67
epis: 58    score: 1.0   mem len: 11253   epsilon: 1.0    steps: 169    lr:
0.0001      reward: 1.66
epis: 59    score: 2.0   mem len: 11470   epsilon: 1.0    steps: 217    lr:
0.0001      reward: 1.67
epis: 60    score: 2.0   mem len: 11687   epsilon: 1.0    steps: 217    lr:
0.0001      reward: 1.67
epis: 61    score: 2.0   mem len: 11884   epsilon: 1.0    steps: 197    lr:
0.0001      reward: 1.68
epis: 62    score: 0.0   mem len: 12007   epsilon: 1.0    steps: 123    lr:
0.0001      reward: 1.65
epis: 63    score: 0.0   mem len: 12129   epsilon: 1.0    steps: 122    lr:
0.0001      reward: 1.62
epis: 64    score: 7.0   mem len: 12574   epsilon: 1.0    steps: 445    lr:
0.0001      reward: 1.71
epis: 65    score: 0.0   mem len: 12697   epsilon: 1.0    steps: 123    lr:
0.0001      reward: 1.68
epis: 66    score: 0.0   mem len: 12819   epsilon: 1.0    steps: 122    lr:
0.0001      reward: 1.66
epis: 67    score: 1.0   mem len: 12988   epsilon: 1.0    steps: 169    lr:
0.0001      reward: 1.65
epis: 68    score: 2.0   mem len: 13185   epsilon: 1.0    steps: 197    lr:
0.0001      reward: 1.65
epis: 69    score: 3.0   mem len: 13431   epsilon: 1.0    steps: 246    lr:
0.0001      reward: 1.67
epis: 70    score: 6.0   mem len: 13809   epsilon: 1.0    steps: 378    lr:
0.0001      reward: 1.73
epis: 71    score: 1.0   mem len: 13979   epsilon: 1.0    steps: 170    lr:
0.0001      reward: 1.72
epis: 72    score: 3.0   mem len: 14243   epsilon: 1.0    steps: 264    lr:
0.0001      reward: 1.74
epis: 73    score: 3.0   mem len: 14469   epsilon: 1.0    steps: 226    lr:
0.0001      reward: 1.76
epis: 74    score: 1.0   mem len: 14620   epsilon: 1.0    steps: 151    lr:
0.0001      reward: 1.75
epis: 75    score: 2.0   mem len: 14840   epsilon: 1.0    steps: 220    lr:
0.0001      reward: 1.75
epis: 76    score: 0.0   mem len: 14963   epsilon: 1.0    steps: 123    lr:
```

```
0.0001     reward: 1.73
epis: 77    score: 2.0   mem len: 15161   epsilon: 1.0    steps: 198    lr:
0.0001     reward: 1.73
epis: 78    score: 3.0   mem len: 15430   epsilon: 1.0    steps: 269    lr:
0.0001     reward: 1.75
epis: 79    score: 4.0   mem len: 15726   epsilon: 1.0    steps: 296    lr:
0.0001     reward: 1.78
epis: 80    score: 3.0   mem len: 15952   epsilon: 1.0    steps: 226    lr:
0.0001     reward: 1.79
epis: 81    score: 3.0   mem len: 16218   epsilon: 1.0    steps: 266    lr:
0.0001     reward: 1.8
epis: 82    score: 2.0   mem len: 16435   epsilon: 1.0    steps: 217    lr:
0.0001     reward: 1.81
epis: 83    score: 2.0   mem len: 16651   epsilon: 1.0    steps: 216    lr:
0.0001     reward: 1.81
epis: 84    score: 2.0   mem len: 16851   epsilon: 1.0    steps: 200    lr:
0.0001     reward: 1.81
epis: 85    score: 2.0   mem len: 17070   epsilon: 1.0    steps: 219    lr:
0.0001     reward: 1.81
epis: 86    score: 1.0   mem len: 17239   epsilon: 1.0    steps: 169    lr:
0.0001     reward: 1.8
epis: 87    score: 0.0   mem len: 17362   epsilon: 1.0    steps: 123    lr:
0.0001     reward: 1.78
epis: 88    score: 4.0   mem len: 17603   epsilon: 1.0    steps: 241    lr:
0.0001     reward: 1.81
epis: 89    score: 2.0   mem len: 17819   epsilon: 1.0    steps: 216    lr:
0.0001     reward: 1.81
epis: 90    score: 1.0   mem len: 17990   epsilon: 1.0    steps: 171    lr:
0.0001     reward: 1.8
epis: 91    score: 0.0   mem len: 18112   epsilon: 1.0    steps: 122    lr:
0.0001     reward: 1.78
epis: 92    score: 2.0   mem len: 18331   epsilon: 1.0    steps: 219    lr:
0.0001     reward: 1.78
epis: 93    score: 1.0   mem len: 18482   epsilon: 1.0    steps: 151    lr:
0.0001     reward: 1.78
epis: 94    score: 1.0   mem len: 18654   epsilon: 1.0    steps: 172    lr:
0.0001     reward: 1.77
epis: 95    score: 1.0   mem len: 18822   epsilon: 1.0    steps: 168    lr:
0.0001     reward: 1.76
epis: 96    score: 0.0   mem len: 18945   epsilon: 1.0    steps: 123    lr:
0.0001     reward: 1.74
epis: 97    score: 1.0   mem len: 19114   epsilon: 1.0    steps: 169    lr:
0.0001     reward: 1.73
epis: 98    score: 4.0   mem len: 19401   epsilon: 1.0    steps: 287    lr:
0.0001     reward: 1.76
epis: 99    score: 8.0   mem len: 19824   epsilon: 1.0    steps: 423    lr:
0.0001     reward: 1.82
epis: 100   score: 2.0   mem len: 20022   epsilon: 1.0    steps: 198    lr:
```

```
0.0001     reward: 1.83
epis: 101   score: 1.0    mem len: 20173   epsilon: 1.0    steps: 151    lr:
0.0001     reward: 1.83
epis: 102   score: 0.0    mem len: 20296   epsilon: 1.0    steps: 123    lr:
0.0001     reward: 1.83
epis: 103   score: 2.0    mem len: 20512   epsilon: 1.0    steps: 216    lr:
0.0001     reward: 1.82
epis: 104   score: 0.0    mem len: 20634   epsilon: 1.0    steps: 122    lr:
0.0001     reward: 1.82
epis: 105   score: 1.0    mem len: 20803   epsilon: 1.0    steps: 169    lr:
0.0001     reward: 1.83
epis: 106   score: 0.0    mem len: 20925   epsilon: 1.0    steps: 122    lr:
0.0001     reward: 1.8
epis: 107   score: 3.0    mem len: 21188   epsilon: 1.0    steps: 263    lr:
0.0001     reward: 1.82
epis: 108   score: 2.0    mem len: 21388   epsilon: 1.0    steps: 200    lr:
0.0001     reward: 1.81
epis: 109   score: 2.0    mem len: 21589   epsilon: 1.0    steps: 201    lr:
0.0001     reward: 1.83
epis: 110   score: 3.0    mem len: 21854   epsilon: 1.0    steps: 265    lr:
0.0001     reward: 1.85
epis: 111   score: 0.0    mem len: 21977   epsilon: 1.0    steps: 123    lr:
0.0001     reward: 1.79
epis: 112   score: 1.0    mem len: 22146   epsilon: 1.0    steps: 169    lr:
0.0001     reward: 1.78
epis: 113   score: 0.0    mem len: 22269   epsilon: 1.0    steps: 123    lr:
0.0001     reward: 1.77
epis: 114   score: 1.0    mem len: 22420   epsilon: 1.0    steps: 151    lr:
0.0001     reward: 1.75
epis: 115   score: 5.0    mem len: 22761   epsilon: 1.0    steps: 341    lr:
0.0001     reward: 1.77
epis: 116   score: 2.0    mem len: 22977   epsilon: 1.0    steps: 216    lr:
0.0001     reward: 1.78
epis: 117   score: 1.0    mem len: 23149   epsilon: 1.0    steps: 172    lr:
0.0001     reward: 1.77
epis: 118   score: 0.0    mem len: 23271   epsilon: 1.0    steps: 122    lr:
0.0001     reward: 1.76
epis: 119   score: 0.0    mem len: 23394   epsilon: 1.0    steps: 123    lr:
0.0001     reward: 1.76
epis: 120   score: 2.0    mem len: 23592   epsilon: 1.0    steps: 198    lr:
0.0001     reward: 1.76
epis: 121   score: 1.0    mem len: 23761   epsilon: 1.0    steps: 169    lr:
0.0001     reward: 1.77
epis: 122   score: 1.0    mem len: 23930   epsilon: 1.0    steps: 169    lr:
0.0001     reward: 1.76
epis: 123   score: 1.0    mem len: 24099   epsilon: 1.0    steps: 169    lr:
0.0001     reward: 1.77
epis: 124   score: 2.0    mem len: 24297   epsilon: 1.0    steps: 198    lr:
```

```
0.0001      reward: 1.79
epis: 125    score: 3.0    mem len: 24565    epsilon: 1.0    steps: 268    lr:
0.0001      reward: 1.82
epis: 126    score: 1.0    mem len: 24734    epsilon: 1.0    steps: 169    lr:
0.0001      reward: 1.82
epis: 127    score: 0.0    mem len: 24856    epsilon: 1.0    steps: 122    lr:
0.0001      reward: 1.81
epis: 128    score: 1.0    mem len: 25025    epsilon: 1.0    steps: 169    lr:
0.0001      reward: 1.8
epis: 129    score: 2.0    mem len: 25223    epsilon: 1.0    steps: 198    lr:
0.0001      reward: 1.81
epis: 130    score: 5.0    mem len: 25569    epsilon: 1.0    steps: 346    lr:
0.0001      reward: 1.86
epis: 131    score: 1.0    mem len: 25741    epsilon: 1.0    steps: 172    lr:
0.0001      reward: 1.86
epis: 132    score: 1.0    mem len: 25909    epsilon: 1.0    steps: 168    lr:
0.0001      reward: 1.84
epis: 133    score: 4.0    mem len: 26220    epsilon: 1.0    steps: 311    lr:
0.0001      reward: 1.87
epis: 134    score: 0.0    mem len: 26342    epsilon: 1.0    steps: 122    lr:
0.0001      reward: 1.87
epis: 135    score: 1.0    mem len: 26511    epsilon: 1.0    steps: 169    lr:
0.0001      reward: 1.87
epis: 136    score: 0.0    mem len: 26634    epsilon: 1.0    steps: 123    lr:
0.0001      reward: 1.85
epis: 137    score: 2.0    mem len: 26832    epsilon: 1.0    steps: 198    lr:
0.0001      reward: 1.86
epis: 138    score: 2.0    mem len: 27032    epsilon: 1.0    steps: 200    lr:
0.0001      reward: 1.86
epis: 139    score: 2.0    mem len: 27230    epsilon: 1.0    steps: 198    lr:
0.0001      reward: 1.83
epis: 140    score: 3.0    mem len: 27478    epsilon: 1.0    steps: 248    lr:
0.0001      reward: 1.84
epis: 141    score: 0.0    mem len: 27601    epsilon: 1.0    steps: 123    lr:
0.0001      reward: 1.83
epis: 142    score: 2.0    mem len: 27820    epsilon: 1.0    steps: 219    lr:
0.0001      reward: 1.85
epis: 143    score: 2.0    mem len: 28017    epsilon: 1.0    steps: 197    lr:
0.0001      reward: 1.84
epis: 144    score: 0.0    mem len: 28140    epsilon: 1.0    steps: 123    lr:
0.0001      reward: 1.82
epis: 145    score: 1.0    mem len: 28309    epsilon: 1.0    steps: 169    lr:
0.0001      reward: 1.76
epis: 146    score: 2.0    mem len: 28508    epsilon: 1.0    steps: 199    lr:
0.0001      reward: 1.76
epis: 147    score: 0.0    mem len: 28631    epsilon: 1.0    steps: 123    lr:
0.0001      reward: 1.75
epis: 148    score: 0.0    mem len: 28753    epsilon: 1.0    steps: 122    lr:
```

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0.0001      reward: 1.73
epis: 149    score: 1.0    mem len: 28922    epsilon: 1.0    steps: 169    lr:
0.0001      reward: 1.72
epis: 150    score: 2.0    mem len: 29119    epsilon: 1.0    steps: 197    lr:
0.0001      reward: 1.71
epis: 151    score: 0.0    mem len: 29242    epsilon: 1.0    steps: 123    lr:
0.0001      reward: 1.7
epis: 152    score: 1.0    mem len: 29411    epsilon: 1.0    steps: 169    lr:
0.0001      reward: 1.69
epis: 153    score: 2.0    mem len: 29609    epsilon: 1.0    steps: 198    lr:
0.0001      reward: 1.67
epis: 154    score: 0.0    mem len: 29732    epsilon: 1.0    steps: 123    lr:
0.0001      reward: 1.61
epis: 155    score: 2.0    mem len: 29930    epsilon: 1.0    steps: 198    lr:
0.0001      reward: 1.63
epis: 156    score: 0.0    mem len: 30052    epsilon: 1.0    steps: 122    lr:
0.0001      reward: 1.61
epis: 157    score: 1.0    mem len: 30221    epsilon: 1.0    steps: 169    lr:
0.0001      reward: 1.62
epis: 158    score: 1.0    mem len: 30391    epsilon: 1.0    steps: 170    lr:
0.0001      reward: 1.62
epis: 159    score: 1.0    mem len: 30559    epsilon: 1.0    steps: 168    lr:
0.0001      reward: 1.61
epis: 160    score: 2.0    mem len: 30741    epsilon: 1.0    steps: 182    lr:
0.0001      reward: 1.61
epis: 161    score: 3.0    mem len: 31012    epsilon: 1.0    steps: 271    lr:
0.0001      reward: 1.62
epis: 162    score: 2.0    mem len: 31211    epsilon: 1.0    steps: 199    lr:
0.0001      reward: 1.64
epis: 163    score: 2.0    mem len: 31409    epsilon: 1.0    steps: 198    lr:
0.0001      reward: 1.66
epis: 164    score: 0.0    mem len: 31531    epsilon: 1.0    steps: 122    lr:
0.0001      reward: 1.59
epis: 165    score: 0.0    mem len: 31654    epsilon: 1.0    steps: 123    lr:
0.0001      reward: 1.59
epis: 166    score: 1.0    mem len: 31804    epsilon: 1.0    steps: 150    lr:
0.0001      reward: 1.6
epis: 167    score: 1.0    mem len: 31955    epsilon: 1.0    steps: 151    lr:
0.0001      reward: 1.6
epis: 168    score: 0.0    mem len: 32077    epsilon: 1.0    steps: 122    lr:
0.0001      reward: 1.58
epis: 169    score: 2.0    mem len: 32296    epsilon: 1.0    steps: 219    lr:
0.0001      reward: 1.57
epis: 170    score: 1.0    mem len: 32465    epsilon: 1.0    steps: 169    lr:
0.0001      reward: 1.52
epis: 171    score: 2.0    mem len: 32680    epsilon: 1.0    steps: 215    lr:
0.0001      reward: 1.53
epis: 172    score: 0.0    mem len: 32803    epsilon: 1.0    steps: 123    lr:
```

```
0.0001     reward: 1.5
epis: 173   score: 2.0   mem len: 33023   epsilon: 1.0   steps: 220   lr:
0.0001     reward: 1.49
epis: 174   score: 2.0   mem len: 33220   epsilon: 1.0   steps: 197   lr:
0.0001     reward: 1.5
epis: 175   score: 3.0   mem len: 33445   epsilon: 1.0   steps: 225   lr:
0.0001     reward: 1.51
epis: 176   score: 2.0   mem len: 33642   epsilon: 1.0   steps: 197   lr:
0.0001     reward: 1.53
epis: 177   score: 3.0   mem len: 33868   epsilon: 1.0   steps: 226   lr:
0.0001     reward: 1.54
epis: 178   score: 0.0   mem len: 33990   epsilon: 1.0   steps: 122   lr:
0.0001     reward: 1.51
epis: 179   score: 0.0   mem len: 34112   epsilon: 1.0   steps: 122   lr:
0.0001     reward: 1.47
epis: 180   score: 2.0   mem len: 34329   epsilon: 1.0   steps: 217   lr:
0.0001     reward: 1.46
epis: 181   score: 0.0   mem len: 34451   epsilon: 1.0   steps: 122   lr:
0.0001     reward: 1.43
epis: 182   score: 1.0   mem len: 34619   epsilon: 1.0   steps: 168   lr:
0.0001     reward: 1.42
epis: 183   score: 2.0   mem len: 34819   epsilon: 1.0   steps: 200   lr:
0.0001     reward: 1.42
epis: 184   score: 2.0   mem len: 34999   epsilon: 1.0   steps: 180   lr:
0.0001     reward: 1.42
epis: 185   score: 0.0   mem len: 35122   epsilon: 1.0   steps: 123   lr:
0.0001     reward: 1.4
epis: 186   score: 0.0   mem len: 35245   epsilon: 1.0   steps: 123   lr:
0.0001     reward: 1.39
epis: 187   score: 0.0   mem len: 35367   epsilon: 1.0   steps: 122   lr:
0.0001     reward: 1.39
epis: 188   score: 0.0   mem len: 35489   epsilon: 1.0   steps: 122   lr:
0.0001     reward: 1.35
epis: 189   score: 2.0   mem len: 35687   epsilon: 1.0   steps: 198   lr:
0.0001     reward: 1.35
epis: 190   score: 3.0   mem len: 35952   epsilon: 1.0   steps: 265   lr:
0.0001     reward: 1.37
epis: 191   score: 2.0   mem len: 36150   epsilon: 1.0   steps: 198   lr:
0.0001     reward: 1.39
epis: 192   score: 0.0   mem len: 36273   epsilon: 1.0   steps: 123   lr:
0.0001     reward: 1.37
epis: 193   score: 1.0   mem len: 36424   epsilon: 1.0   steps: 151   lr:
0.0001     reward: 1.37
epis: 194   score: 3.0   mem len: 36671   epsilon: 1.0   steps: 247   lr:
0.0001     reward: 1.39
epis: 195   score: 1.0   mem len: 36839   epsilon: 1.0   steps: 168   lr:
0.0001     reward: 1.39
epis: 196   score: 2.0   mem len: 37037   epsilon: 1.0   steps: 198   lr:
```

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0.0001      reward: 1.41
epis: 197    score: 2.0    mem len: 37216    epsilon: 1.0    steps: 179    lr:
0.0001      reward: 1.42
epis: 198    score: 3.0    mem len: 37447    epsilon: 1.0    steps: 231    lr:
0.0001      reward: 1.41
epis: 199    score: 0.0    mem len: 37570    epsilon: 1.0    steps: 123    lr:
0.0001      reward: 1.33
epis: 200    score: 5.0    mem len: 37878    epsilon: 1.0    steps: 308    lr:
0.0001      reward: 1.36
epis: 201    score: 6.0    mem len: 38252    epsilon: 1.0    steps: 374    lr:
0.0001      reward: 1.41
epis: 202    score: 0.0    mem len: 38375    epsilon: 1.0    steps: 123    lr:
0.0001      reward: 1.41
epis: 203    score: 1.0    mem len: 38526    epsilon: 1.0    steps: 151    lr:
0.0001      reward: 1.4
epis: 204    score: 0.0    mem len: 38649    epsilon: 1.0    steps: 123    lr:
0.0001      reward: 1.4
epis: 205    score: 3.0    mem len: 38896    epsilon: 1.0    steps: 247    lr:
0.0001      reward: 1.42
epis: 206    score: 1.0    mem len: 39065    epsilon: 1.0    steps: 169    lr:
0.0001      reward: 1.43
epis: 207    score: 4.0    mem len: 39362    epsilon: 1.0    steps: 297    lr:
0.0001      reward: 1.44
epis: 208    score: 1.0    mem len: 39533    epsilon: 1.0    steps: 171    lr:
0.0001      reward: 1.43
epis: 209    score: 0.0    mem len: 39656    epsilon: 1.0    steps: 123    lr:
0.0001      reward: 1.41
epis: 210    score: 1.0    mem len: 39807    epsilon: 1.0    steps: 151    lr:
0.0001      reward: 1.39
epis: 211    score: 0.0    mem len: 39929    epsilon: 1.0    steps: 122    lr:
0.0001      reward: 1.39
epis: 212    score: 0.0    mem len: 40051    epsilon: 1.0    steps: 122    lr:
0.0001      reward: 1.38
epis: 213    score: 2.0    mem len: 40250    epsilon: 1.0    steps: 199    lr:
0.0001      reward: 1.4
epis: 214    score: 6.0    mem len: 40584    epsilon: 1.0    steps: 334    lr:
0.0001      reward: 1.45
epis: 215    score: 2.0    mem len: 40802    epsilon: 1.0    steps: 218    lr:
0.0001      reward: 1.42
epis: 216    score: 1.0    mem len: 40971    epsilon: 1.0    steps: 169    lr:
0.0001      reward: 1.41
epis: 217    score: 3.0    mem len: 41198    epsilon: 1.0    steps: 227    lr:
0.0001      reward: 1.43
epis: 218    score: 0.0    mem len: 41321    epsilon: 1.0    steps: 123    lr:
0.0001      reward: 1.43
epis: 219    score: 0.0    mem len: 41443    epsilon: 1.0    steps: 122    lr:
0.0001      reward: 1.43
epis: 220    score: 6.0    mem len: 41819    epsilon: 1.0    steps: 376    lr:
```

```
0.0001      reward: 1.47
epis: 221    score: 1.0    mem len: 41987    epsilon: 1.0    steps: 168    lr:
0.0001      reward: 1.47
epis: 222    score: 3.0    mem len: 42219    epsilon: 1.0    steps: 232    lr:
0.0001      reward: 1.49
epis: 223    score: 6.0    mem len: 42615    epsilon: 1.0    steps: 396    lr:
0.0001      reward: 1.54
epis: 224    score: 3.0    mem len: 42881    epsilon: 1.0    steps: 266    lr:
0.0001      reward: 1.55
epis: 225    score: 2.0    mem len: 43081    epsilon: 1.0    steps: 200    lr:
0.0001      reward: 1.54
epis: 226    score: 0.0    mem len: 43203    epsilon: 1.0    steps: 122    lr:
0.0001      reward: 1.53
epis: 227    score: 2.0    mem len: 43424    epsilon: 1.0    steps: 221    lr:
0.0001      reward: 1.55
epis: 228    score: 2.0    mem len: 43643    epsilon: 1.0    steps: 219    lr:
0.0001      reward: 1.56
epis: 229    score: 0.0    mem len: 43765    epsilon: 1.0    steps: 122    lr:
0.0001      reward: 1.54
epis: 230    score: 0.0    mem len: 43888    epsilon: 1.0    steps: 123    lr:
0.0001      reward: 1.49
epis: 231    score: 0.0    mem len: 44011    epsilon: 1.0    steps: 123    lr:
0.0001      reward: 1.48
epis: 232    score: 0.0    mem len: 44133    epsilon: 1.0    steps: 122    lr:
0.0001      reward: 1.47
epis: 233    score: 1.0    mem len: 44301    epsilon: 1.0    steps: 168    lr:
0.0001      reward: 1.44
epis: 234    score: 1.0    mem len: 44453    epsilon: 1.0    steps: 152    lr:
0.0001      reward: 1.45
epis: 235    score: 3.0    mem len: 44700    epsilon: 1.0    steps: 247    lr:
0.0001      reward: 1.47
epis: 236    score: 0.0    mem len: 44823    epsilon: 1.0    steps: 123    lr:
0.0001      reward: 1.47
epis: 237    score: 1.0    mem len: 44973    epsilon: 1.0    steps: 150    lr:
0.0001      reward: 1.46
epis: 238    score: 2.0    mem len: 45171    epsilon: 1.0    steps: 198    lr:
0.0001      reward: 1.46
epis: 239    score: 1.0    mem len: 45321    epsilon: 1.0    steps: 150    lr:
0.0001      reward: 1.45
epis: 240    score: 1.0    mem len: 45472    epsilon: 1.0    steps: 151    lr:
0.0001      reward: 1.43
epis: 241    score: 2.0    mem len: 45654    epsilon: 1.0    steps: 182    lr:
0.0001      reward: 1.45
epis: 242    score: 1.0    mem len: 45805    epsilon: 1.0    steps: 151    lr:
0.0001      reward: 1.44
epis: 243    score: 0.0    mem len: 45927    epsilon: 1.0    steps: 122    lr:
0.0001      reward: 1.42
epis: 244    score: 2.0    mem len: 46125    epsilon: 1.0    steps: 198    lr:
```

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0.0001     reward: 1.44
epis: 245   score: 0.0   mem len: 46248   epsilon: 1.0   steps: 123   lr:
0.0001     reward: 1.43
epis: 246   score: 1.0   mem len: 46416   epsilon: 1.0   steps: 168   lr:
0.0001     reward: 1.42
epis: 247   score: 0.0   mem len: 46539   epsilon: 1.0   steps: 123   lr:
0.0001     reward: 1.42
epis: 248   score: 1.0   mem len: 46709   epsilon: 1.0   steps: 170   lr:
0.0001     reward: 1.43
epis: 249   score: 2.0   mem len: 46928   epsilon: 1.0   steps: 219   lr:
0.0001     reward: 1.44
epis: 250   score: 3.0   mem len: 47155   epsilon: 1.0   steps: 227   lr:
0.0001     reward: 1.45
epis: 251   score: 1.0   mem len: 47305   epsilon: 1.0   steps: 150   lr:
0.0001     reward: 1.46
epis: 252   score: 1.0   mem len: 47474   epsilon: 1.0   steps: 169   lr:
0.0001     reward: 1.46
epis: 253   score: 1.0   mem len: 47643   epsilon: 1.0   steps: 169   lr:
0.0001     reward: 1.45
epis: 254   score: 1.0   mem len: 47812   epsilon: 1.0   steps: 169   lr:
0.0001     reward: 1.46
epis: 255   score: 0.0   mem len: 47935   epsilon: 1.0   steps: 123   lr:
0.0001     reward: 1.44
epis: 256   score: 2.0   mem len: 48135   epsilon: 1.0   steps: 200   lr:
0.0001     reward: 1.46
epis: 257   score: 2.0   mem len: 48333   epsilon: 1.0   steps: 198   lr:
0.0001     reward: 1.47
epis: 258   score: 1.0   mem len: 48503   epsilon: 1.0   steps: 170   lr:
0.0001     reward: 1.47
epis: 259   score: 0.0   mem len: 48626   epsilon: 1.0   steps: 123   lr:
0.0001     reward: 1.46
epis: 260   score: 1.0   mem len: 48795   epsilon: 1.0   steps: 169   lr:
0.0001     reward: 1.45
epis: 261   score: 1.0   mem len: 48967   epsilon: 1.0   steps: 172   lr:
0.0001     reward: 1.43
epis: 262   score: 3.0   mem len: 49217   epsilon: 1.0   steps: 250   lr:
0.0001     reward: 1.44
epis: 263   score: 0.0   mem len: 49339   epsilon: 1.0   steps: 122   lr:
0.0001     reward: 1.42
epis: 264   score: 1.0   mem len: 49507   epsilon: 1.0   steps: 168   lr:
0.0001     reward: 1.43
epis: 265   score: 0.0   mem len: 49630   epsilon: 1.0   steps: 123   lr:
0.0001     reward: 1.43
epis: 266   score: 2.0   mem len: 49810   epsilon: 1.0   steps: 180   lr:
0.0001     reward: 1.44
epis: 267   score: 2.0   mem len: 50009   epsilon: 1.0   steps: 199   lr:
0.0001     reward: 1.45
epis: 268   score: 0.0   mem len: 50131   epsilon: 1.0   steps: 122   lr:
```

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0.0001     reward: 1.45
epis: 269   score: 2.0   mem len: 50329   epsilon: 1.0   steps: 198   lr:
0.0001     reward: 1.45
epis: 270   score: 0.0   mem len: 50452   epsilon: 1.0   steps: 123   lr:
0.0001     reward: 1.44
epis: 271   score: 4.0   mem len: 50729   epsilon: 1.0   steps: 277   lr:
0.0001     reward: 1.46
epis: 272   score: 0.0   mem len: 50852   epsilon: 1.0   steps: 123   lr:
0.0001     reward: 1.46
epis: 273   score: 1.0   mem len: 51005   epsilon: 1.0   steps: 153   lr:
0.0001     reward: 1.45
epis: 274   score: 2.0   mem len: 51220   epsilon: 1.0   steps: 215   lr:
0.0001     reward: 1.45
epis: 275   score: 2.0   mem len: 51404   epsilon: 1.0   steps: 184   lr:
0.0001     reward: 1.44
epis: 276   score: 0.0   mem len: 51526   epsilon: 1.0   steps: 122   lr:
0.0001     reward: 1.42
epis: 277   score: 1.0   mem len: 51696   epsilon: 1.0   steps: 170   lr:
0.0001     reward: 1.4
epis: 278   score: 2.0   mem len: 51893   epsilon: 1.0   steps: 197   lr:
0.0001     reward: 1.42
epis: 279   score: 1.0   mem len: 52061   epsilon: 1.0   steps: 168   lr:
0.0001     reward: 1.43
epis: 280   score: 0.0   mem len: 52184   epsilon: 1.0   steps: 123   lr:
0.0001     reward: 1.41
epis: 281   score: 3.0   mem len: 52430   epsilon: 1.0   steps: 246   lr:
0.0001     reward: 1.44
epis: 282   score: 5.0   mem len: 52771   epsilon: 1.0   steps: 341   lr:
0.0001     reward: 1.48
epis: 283   score: 2.0   mem len: 52969   epsilon: 1.0   steps: 198   lr:
0.0001     reward: 1.48
epis: 284   score: 0.0   mem len: 53092   epsilon: 1.0   steps: 123   lr:
0.0001     reward: 1.46
epis: 285   score: 1.0   mem len: 53261   epsilon: 1.0   steps: 169   lr:
0.0001     reward: 1.47
epis: 286   score: 3.0   mem len: 53530   epsilon: 1.0   steps: 269   lr:
0.0001     reward: 1.5
epis: 287   score: 2.0   mem len: 53730   epsilon: 1.0   steps: 200   lr:
0.0001     reward: 1.52
epis: 288   score: 4.0   mem len: 54003   epsilon: 1.0   steps: 273   lr:
0.0001     reward: 1.56
epis: 289   score: 0.0   mem len: 54125   epsilon: 1.0   steps: 122   lr:
0.0001     reward: 1.54
epis: 290   score: 2.0   mem len: 54341   epsilon: 1.0   steps: 216   lr:
0.0001     reward: 1.53
epis: 291   score: 2.0   mem len: 54521   epsilon: 1.0   steps: 180   lr:
0.0001     reward: 1.53
epis: 292   score: 0.0   mem len: 54644   epsilon: 1.0   steps: 123   lr:
```

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0.0001      reward: 1.53
epis: 293   score: 3.0   mem len: 54870   epsilon: 1.0   steps: 226   lr:
0.0001      reward: 1.55
epis: 294   score: 1.0   mem len: 55021   epsilon: 1.0   steps: 151   lr:
0.0001      reward: 1.53
epis: 295   score: 2.0   mem len: 55239   epsilon: 1.0   steps: 218   lr:
0.0001      reward: 1.54
epis: 296   score: 1.0   mem len: 55390   epsilon: 1.0   steps: 151   lr:
0.0001      reward: 1.53
epis: 297   score: 0.0   mem len: 55512   epsilon: 1.0   steps: 122   lr:
0.0001      reward: 1.51
epis: 298   score: 4.0   mem len: 55806   epsilon: 1.0   steps: 294   lr:
0.0001      reward: 1.52
epis: 299   score: 3.0   mem len: 56070   epsilon: 1.0   steps: 264   lr:
0.0001      reward: 1.55
epis: 300   score: 1.0   mem len: 56240   epsilon: 1.0   steps: 170   lr:
0.0001      reward: 1.51
epis: 301   score: 2.0   mem len: 56439   epsilon: 1.0   steps: 199   lr:
0.0001      reward: 1.47
epis: 302   score: 1.0   mem len: 56590   epsilon: 1.0   steps: 151   lr:
0.0001      reward: 1.48
epis: 303   score: 2.0   mem len: 56788   epsilon: 1.0   steps: 198   lr:
0.0001      reward: 1.49
epis: 304   score: 2.0   mem len: 56986   epsilon: 1.0   steps: 198   lr:
0.0001      reward: 1.51
epis: 305   score: 1.0   mem len: 57156   epsilon: 1.0   steps: 170   lr:
0.0001      reward: 1.49
epis: 306   score: 1.0   mem len: 57328   epsilon: 1.0   steps: 172   lr:
0.0001      reward: 1.49
epis: 307   score: 1.0   mem len: 57480   epsilon: 1.0   steps: 152   lr:
0.0001      reward: 1.46
epis: 308   score: 0.0   mem len: 57602   epsilon: 1.0   steps: 122   lr:
0.0001      reward: 1.45
epis: 309   score: 2.0   mem len: 57818   epsilon: 1.0   steps: 216   lr:
0.0001      reward: 1.47
epis: 310   score: 0.0   mem len: 57941   epsilon: 1.0   steps: 123   lr:
0.0001      reward: 1.46
epis: 311   score: 1.0   mem len: 58112   epsilon: 1.0   steps: 171   lr:
0.0001      reward: 1.47
epis: 312   score: 1.0   mem len: 58281   epsilon: 1.0   steps: 169   lr:
0.0001      reward: 1.48
epis: 313   score: 5.0   mem len: 58610   epsilon: 1.0   steps: 329   lr:
0.0001      reward: 1.51
epis: 314   score: 0.0   mem len: 58733   epsilon: 1.0   steps: 123   lr:
0.0001      reward: 1.45
epis: 315   score: 0.0   mem len: 58855   epsilon: 1.0   steps: 122   lr:
0.0001      reward: 1.43
epis: 316   score: 0.0   mem len: 58977   epsilon: 1.0   steps: 122   lr:
```

```
0.0001    reward: 1.42
epis: 317   score: 3.0   mem len: 59209   epsilon: 1.0   steps: 232   lr:
0.0001    reward: 1.42
epis: 318   score: 1.0   mem len: 59359   epsilon: 1.0   steps: 150   lr:
0.0001    reward: 1.43
epis: 319   score: 4.0   mem len: 59639   epsilon: 1.0   steps: 280   lr:
0.0001    reward: 1.47
epis: 320   score: 0.0   mem len: 59762   epsilon: 1.0   steps: 123   lr:
0.0001    reward: 1.41
epis: 321   score: 5.0   mem len: 60101   epsilon: 1.0   steps: 339   lr:
0.0001    reward: 1.45
epis: 322   score: 0.0   mem len: 60223   epsilon: 1.0   steps: 122   lr:
0.0001    reward: 1.42
epis: 323   score: 3.0   mem len: 60490   epsilon: 1.0   steps: 267   lr:
0.0001    reward: 1.39
epis: 324   score: 2.0   mem len: 60708   epsilon: 1.0   steps: 218   lr:
0.0001    reward: 1.38
epis: 325   score: 0.0   mem len: 60831   epsilon: 1.0   steps: 123   lr:
0.0001    reward: 1.36
epis: 326   score: 0.0   mem len: 60954   epsilon: 1.0   steps: 123   lr:
0.0001    reward: 1.36
epis: 327   score: 2.0   mem len: 61133   epsilon: 1.0   steps: 179   lr:
0.0001    reward: 1.36
epis: 328   score: 0.0   mem len: 61255   epsilon: 1.0   steps: 122   lr:
0.0001    reward: 1.34
epis: 329   score: 1.0   mem len: 61425   epsilon: 1.0   steps: 170   lr:
0.0001    reward: 1.35
epis: 330   score: 0.0   mem len: 61547   epsilon: 1.0   steps: 122   lr:
0.0001    reward: 1.35
epis: 331   score: 2.0   mem len: 61770   epsilon: 1.0   steps: 223   lr:
0.0001    reward: 1.37
epis: 332   score: 0.0   mem len: 61892   epsilon: 1.0   steps: 122   lr:
0.0001    reward: 1.37
epis: 333   score: 2.0   mem len: 62090   epsilon: 1.0   steps: 198   lr:
0.0001    reward: 1.38
epis: 334   score: 2.0   mem len: 62287   epsilon: 1.0   steps: 197   lr:
0.0001    reward: 1.39
epis: 335   score: 0.0   mem len: 62410   epsilon: 1.0   steps: 123   lr:
0.0001    reward: 1.36
epis: 336   score: 1.0   mem len: 62561   epsilon: 1.0   steps: 151   lr:
0.0001    reward: 1.37
epis: 337   score: 5.0   mem len: 62887   epsilon: 1.0   steps: 326   lr:
0.0001    reward: 1.41
epis: 338   score: 1.0   mem len: 63056   epsilon: 1.0   steps: 169   lr:
0.0001    reward: 1.4
epis: 339   score: 1.0   mem len: 63206   epsilon: 1.0   steps: 150   lr:
0.0001    reward: 1.4
epis: 340   score: 0.0   mem len: 63329   epsilon: 1.0   steps: 123   lr:
```

```
0.0001      reward: 1.39
epis: 341    score: 3.0    mem len: 63556    epsilon: 1.0    steps: 227    lr:
0.0001      reward: 1.4
epis: 342    score: 2.0    mem len: 63774    epsilon: 1.0    steps: 218    lr:
0.0001      reward: 1.41
epis: 343    score: 2.0    mem len: 63992    epsilon: 1.0    steps: 218    lr:
0.0001      reward: 1.43
epis: 344    score: 2.0    mem len: 64190    epsilon: 1.0    steps: 198    lr:
0.0001      reward: 1.43
epis: 345    score: 3.0    mem len: 64456    epsilon: 1.0    steps: 266    lr:
0.0001      reward: 1.46
epis: 346    score: 1.0    mem len: 64625    epsilon: 1.0    steps: 169    lr:
0.0001      reward: 1.46
epis: 347    score: 2.0    mem len: 64842    epsilon: 1.0    steps: 217    lr:
0.0001      reward: 1.48
epis: 348    score: 0.0    mem len: 64965    epsilon: 1.0    steps: 123    lr:
0.0001      reward: 1.47
epis: 349    score: 1.0    mem len: 65134    epsilon: 1.0    steps: 169    lr:
0.0001      reward: 1.46
epis: 350    score: 1.0    mem len: 65285    epsilon: 1.0    steps: 151    lr:
0.0001      reward: 1.44
epis: 351    score: 1.0    mem len: 65453    epsilon: 1.0    steps: 168    lr:
0.0001      reward: 1.44
epis: 352    score: 0.0    mem len: 65576    epsilon: 1.0    steps: 123    lr:
0.0001      reward: 1.43
epis: 353    score: 1.0    mem len: 65727    epsilon: 1.0    steps: 151    lr:
0.0001      reward: 1.43
epis: 354    score: 1.0    mem len: 65878    epsilon: 1.0    steps: 151    lr:
0.0001      reward: 1.43
epis: 355    score: 2.0    mem len: 66077    epsilon: 1.0    steps: 199    lr:
0.0001      reward: 1.45
epis: 356    score: 3.0    mem len: 66343    epsilon: 1.0    steps: 266    lr:
0.0001      reward: 1.46
epis: 357    score: 0.0    mem len: 66465    epsilon: 1.0    steps: 122    lr:
0.0001      reward: 1.44
epis: 358    score: 1.0    mem len: 66633    epsilon: 1.0    steps: 168    lr:
0.0001      reward: 1.44
epis: 359    score: 1.0    mem len: 66805    epsilon: 1.0    steps: 172    lr:
0.0001      reward: 1.45
epis: 360    score: 2.0    mem len: 67003    epsilon: 1.0    steps: 198    lr:
0.0001      reward: 1.46
epis: 361    score: 1.0    mem len: 67171    epsilon: 1.0    steps: 168    lr:
0.0001      reward: 1.46
epis: 362    score: 2.0    mem len: 67392    epsilon: 1.0    steps: 221    lr:
0.0001      reward: 1.45
epis: 363    score: 3.0    mem len: 67618    epsilon: 1.0    steps: 226    lr:
0.0001      reward: 1.48
epis: 364    score: 1.0    mem len: 67786    epsilon: 1.0    steps: 168    lr:
```

```
0.0001    reward: 1.48
epis: 365   score: 0.0   mem len: 67908   epsilon: 1.0    steps: 122    lr:
0.0001    reward: 1.48
epis: 366   score: 2.0   mem len: 68125   epsilon: 1.0    steps: 217    lr:
0.0001    reward: 1.48
epis: 367   score: 1.0   mem len: 68296   epsilon: 1.0    steps: 171    lr:
0.0001    reward: 1.47
epis: 368   score: 2.0   mem len: 68494   epsilon: 1.0    steps: 198    lr:
0.0001    reward: 1.49
epis: 369   score: 1.0   mem len: 68645   epsilon: 1.0    steps: 151    lr:
0.0001    reward: 1.48
epis: 370   score: 3.0   mem len: 68893   epsilon: 1.0    steps: 248    lr:
0.0001    reward: 1.51
epis: 371   score: 2.0   mem len: 69091   epsilon: 1.0    steps: 198    lr:
0.0001    reward: 1.49
epis: 372   score: 3.0   mem len: 69360   epsilon: 1.0    steps: 269    lr:
0.0001    reward: 1.52
epis: 373   score: 0.0   mem len: 69483   epsilon: 1.0    steps: 123    lr:
0.0001    reward: 1.51
epis: 374   score: 1.0   mem len: 69651   epsilon: 1.0    steps: 168    lr:
0.0001    reward: 1.5
epis: 375   score: 1.0   mem len: 69801   epsilon: 1.0    steps: 150    lr:
0.0001    reward: 1.49
epis: 376   score: 1.0   mem len: 69969   epsilon: 1.0    steps: 168    lr:
0.0001    reward: 1.5
epis: 377   score: 1.0   mem len: 70141   epsilon: 1.0    steps: 172    lr:
0.0001    reward: 1.5
epis: 378   score: 1.0   mem len: 70309   epsilon: 1.0    steps: 168    lr:
0.0001    reward: 1.49
epis: 379   score: 1.0   mem len: 70478   epsilon: 1.0    steps: 169    lr:
0.0001    reward: 1.49
epis: 380   score: 0.0   mem len: 70600   epsilon: 1.0    steps: 122    lr:
0.0001    reward: 1.49
epis: 381   score: 0.0   mem len: 70722   epsilon: 1.0    steps: 122    lr:
0.0001    reward: 1.46
epis: 382   score: 2.0   mem len: 70919   epsilon: 1.0    steps: 197    lr:
0.0001    reward: 1.43
epis: 383   score: 3.0   mem len: 71190   epsilon: 1.0    steps: 271    lr:
0.0001    reward: 1.44
epis: 384   score: 2.0   mem len: 71388   epsilon: 1.0    steps: 198    lr:
0.0001    reward: 1.46
epis: 385   score: 2.0   mem len: 71586   epsilon: 1.0    steps: 198    lr:
0.0001    reward: 1.47
epis: 386   score: 0.0   mem len: 71709   epsilon: 1.0    steps: 123    lr:
0.0001    reward: 1.44
epis: 387   score: 1.0   mem len: 71877   epsilon: 1.0    steps: 168    lr:
0.0001    reward: 1.43
epis: 388   score: 1.0   mem len: 72046   epsilon: 1.0    steps: 169    lr:
```

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0.0001     reward: 1.4
epis: 389   score: 2.0   mem len: 72244   epsilon: 1.0   steps: 198   lr:
0.0001     reward: 1.42
epis: 390   score: 0.0   mem len: 72367   epsilon: 1.0   steps: 123   lr:
0.0001     reward: 1.4
epis: 391   score: 2.0   mem len: 72566   epsilon: 1.0   steps: 199   lr:
0.0001     reward: 1.4
epis: 392   score: 0.0   mem len: 72688   epsilon: 1.0   steps: 122   lr:
0.0001     reward: 1.4
epis: 393   score: 3.0   mem len: 72935   epsilon: 1.0   steps: 247   lr:
0.0001     reward: 1.4
epis: 394   score: 1.0   mem len: 73104   epsilon: 1.0   steps: 169   lr:
0.0001     reward: 1.4
epis: 395   score: 0.0   mem len: 73227   epsilon: 1.0   steps: 123   lr:
0.0001     reward: 1.38
epis: 396   score: 3.0   mem len: 73475   epsilon: 1.0   steps: 248   lr:
0.0001     reward: 1.4
epis: 397   score: 1.0   mem len: 73626   epsilon: 1.0   steps: 151   lr:
0.0001     reward: 1.41
epis: 398   score: 2.0   mem len: 73829   epsilon: 1.0   steps: 203   lr:
0.0001     reward: 1.39
epis: 399   score: 0.0   mem len: 73952   epsilon: 1.0   steps: 123   lr:
0.0001     reward: 1.36
epis: 400   score: 3.0   mem len: 74198   epsilon: 1.0   steps: 246   lr:
0.0001     reward: 1.38
epis: 401   score: 1.0   mem len: 74348   epsilon: 1.0   steps: 150   lr:
0.0001     reward: 1.37
epis: 402   score: 2.0   mem len: 74565   epsilon: 1.0   steps: 217   lr:
0.0001     reward: 1.38
epis: 403   score: 1.0   mem len: 74734   epsilon: 1.0   steps: 169   lr:
0.0001     reward: 1.37
epis: 404   score: 0.0   mem len: 74857   epsilon: 1.0   steps: 123   lr:
0.0001     reward: 1.35
epis: 405   score: 0.0   mem len: 74979   epsilon: 1.0   steps: 122   lr:
0.0001     reward: 1.34
epis: 406   score: 7.0   mem len: 75388   epsilon: 1.0   steps: 409   lr:
0.0001     reward: 1.4
epis: 407   score: 1.0   mem len: 75539   epsilon: 1.0   steps: 151   lr:
0.0001     reward: 1.4
epis: 408   score: 0.0   mem len: 75661   epsilon: 1.0   steps: 122   lr:
0.0001     reward: 1.4
epis: 409   score: 2.0   mem len: 75858   epsilon: 1.0   steps: 197   lr:
0.0001     reward: 1.4
epis: 410   score: 5.0   mem len: 76167   epsilon: 1.0   steps: 309   lr:
0.0001     reward: 1.45
epis: 411   score: 1.0   mem len: 76336   epsilon: 1.0   steps: 169   lr:
0.0001     reward: 1.45
epis: 412   score: 2.0   mem len: 76534   epsilon: 1.0   steps: 198   lr:
```

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0.0001     reward: 1.46
epis: 413   score: 0.0   mem len: 76656   epsilon: 1.0   steps: 122   lr:
0.0001     reward: 1.41
epis: 414   score: 1.0   mem len: 76806   epsilon: 1.0   steps: 150   lr:
0.0001     reward: 1.42
epis: 415   score: 5.0   mem len: 77153   epsilon: 1.0   steps: 347   lr:
0.0001     reward: 1.47
epis: 416   score: 0.0   mem len: 77276   epsilon: 1.0   steps: 123   lr:
0.0001     reward: 1.47
epis: 417   score: 4.0   mem len: 77573   epsilon: 1.0   steps: 297   lr:
0.0001     reward: 1.48
epis: 418   score: 1.0   mem len: 77741   epsilon: 1.0   steps: 168   lr:
0.0001     reward: 1.48
epis: 419   score: 0.0   mem len: 77864   epsilon: 1.0   steps: 123   lr:
0.0001     reward: 1.44
epis: 420   score: 4.0   mem len: 78157   epsilon: 1.0   steps: 293   lr:
0.0001     reward: 1.48
epis: 421   score: 0.0   mem len: 78280   epsilon: 1.0   steps: 123   lr:
0.0001     reward: 1.43
epis: 422   score: 0.0   mem len: 78403   epsilon: 1.0   steps: 123   lr:
0.0001     reward: 1.43
epis: 423   score: 0.0   mem len: 78526   epsilon: 1.0   steps: 123   lr:
0.0001     reward: 1.4
epis: 424   score: 0.0   mem len: 78649   epsilon: 1.0   steps: 123   lr:
0.0001     reward: 1.38
epis: 425   score: 2.0   mem len: 78867   epsilon: 1.0   steps: 218   lr:
0.0001     reward: 1.4
epis: 426   score: 2.0   mem len: 79047   epsilon: 1.0   steps: 180   lr:
0.0001     reward: 1.42
epis: 427   score: 2.0   mem len: 79247   epsilon: 1.0   steps: 200   lr:
0.0001     reward: 1.42
epis: 428   score: 0.0   mem len: 79369   epsilon: 1.0   steps: 122   lr:
0.0001     reward: 1.42
epis: 429   score: 0.0   mem len: 79491   epsilon: 1.0   steps: 122   lr:
0.0001     reward: 1.41
epis: 430   score: 4.0   mem len: 79750   epsilon: 1.0   steps: 259   lr:
0.0001     reward: 1.45
epis: 431   score: 0.0   mem len: 79873   epsilon: 1.0   steps: 123   lr:
0.0001     reward: 1.43
epis: 432   score: 1.0   mem len: 80041   epsilon: 1.0   steps: 168   lr:
0.0001     reward: 1.44
epis: 433   score: 1.0   mem len: 80191   epsilon: 1.0   steps: 150   lr:
0.0001     reward: 1.43
epis: 434   score: 0.0   mem len: 80313   epsilon: 1.0   steps: 122   lr:
0.0001     reward: 1.41
epis: 435   score: 2.0   mem len: 80532   epsilon: 1.0   steps: 219   lr:
0.0001     reward: 1.43
epis: 436   score: 2.0   mem len: 80748   epsilon: 1.0   steps: 216   lr:
```

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0.0001     reward: 1.44
epis: 437   score: 2.0   mem len: 80966   epsilon: 1.0   steps: 218   lr:
0.0001     reward: 1.41
epis: 438   score: 2.0   mem len: 81164   epsilon: 1.0   steps: 198   lr:
0.0001     reward: 1.42
epis: 439   score: 1.0   mem len: 81335   epsilon: 1.0   steps: 171   lr:
0.0001     reward: 1.42
epis: 440   score: 0.0   mem len: 81457   epsilon: 1.0   steps: 122   lr:
0.0001     reward: 1.42
epis: 441   score: 4.0   mem len: 81751   epsilon: 1.0   steps: 294   lr:
0.0001     reward: 1.43
epis: 442   score: 1.0   mem len: 81923   epsilon: 1.0   steps: 172   lr:
0.0001     reward: 1.42
epis: 443   score: 2.0   mem len: 82143   epsilon: 1.0   steps: 220   lr:
0.0001     reward: 1.42
epis: 444   score: 0.0   mem len: 82265   epsilon: 1.0   steps: 122   lr:
0.0001     reward: 1.4
epis: 445   score: 1.0   mem len: 82433   epsilon: 1.0   steps: 168   lr:
0.0001     reward: 1.38
epis: 446   score: 3.0   mem len: 82699   epsilon: 1.0   steps: 266   lr:
0.0001     reward: 1.4
epis: 447   score: 1.0   mem len: 82870   epsilon: 1.0   steps: 171   lr:
0.0001     reward: 1.39
epis: 448   score: 4.0   mem len: 83187   epsilon: 1.0   steps: 317   lr:
0.0001     reward: 1.43
epis: 449   score: 1.0   mem len: 83338   epsilon: 1.0   steps: 151   lr:
0.0001     reward: 1.43
epis: 450   score: 1.0   mem len: 83510   epsilon: 1.0   steps: 172   lr:
0.0001     reward: 1.43
epis: 451   score: 3.0   mem len: 83737   epsilon: 1.0   steps: 227   lr:
0.0001     reward: 1.45
epis: 452   score: 0.0   mem len: 83859   epsilon: 1.0   steps: 122   lr:
0.0001     reward: 1.45
epis: 453   score: 1.0   mem len: 84030   epsilon: 1.0   steps: 171   lr:
0.0001     reward: 1.45
epis: 454   score: 2.0   mem len: 84212   epsilon: 1.0   steps: 182   lr:
0.0001     reward: 1.46
epis: 455   score: 2.0   mem len: 84432   epsilon: 1.0   steps: 220   lr:
0.0001     reward: 1.46
epis: 456   score: 4.0   mem len: 84727   epsilon: 1.0   steps: 295   lr:
0.0001     reward: 1.47
epis: 457   score: 3.0   mem len: 84972   epsilon: 1.0   steps: 245   lr:
0.0001     reward: 1.5
epis: 458   score: 2.0   mem len: 85172   epsilon: 1.0   steps: 200   lr:
0.0001     reward: 1.51
epis: 459   score: 2.0   mem len: 85369   epsilon: 1.0   steps: 197   lr:
0.0001     reward: 1.52
epis: 460   score: 4.0   mem len: 85609   epsilon: 1.0   steps: 240   lr:
```

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0.0001     reward: 1.54
epis: 461   score: 1.0   mem len: 85760   epsilon: 1.0   steps: 151   lr:
0.0001     reward: 1.54
epis: 462   score: 0.0   mem len: 85882   epsilon: 1.0   steps: 122   lr:
0.0001     reward: 1.52
epis: 463   score: 3.0   mem len: 86128   epsilon: 1.0   steps: 246   lr:
0.0001     reward: 1.52
epis: 464   score: 1.0   mem len: 86297   epsilon: 1.0   steps: 169   lr:
0.0001     reward: 1.52
epis: 465   score: 3.0   mem len: 86542   epsilon: 1.0   steps: 245   lr:
0.0001     reward: 1.55
epis: 466   score: 1.0   mem len: 86712   epsilon: 1.0   steps: 170   lr:
0.0001     reward: 1.54
epis: 467   score: 0.0   mem len: 86834   epsilon: 1.0   steps: 122   lr:
0.0001     reward: 1.53
epis: 468   score: 1.0   mem len: 86984   epsilon: 1.0   steps: 150   lr:
0.0001     reward: 1.52
epis: 469   score: 5.0   mem len: 87311   epsilon: 1.0   steps: 327   lr:
0.0001     reward: 1.56
epis: 470   score: 0.0   mem len: 87434   epsilon: 1.0   steps: 123   lr:
0.0001     reward: 1.53
epis: 471   score: 1.0   mem len: 87585   epsilon: 1.0   steps: 151   lr:
0.0001     reward: 1.52
epis: 472   score: 0.0   mem len: 87708   epsilon: 1.0   steps: 123   lr:
0.0001     reward: 1.49
epis: 473   score: 4.0   mem len: 88004   epsilon: 1.0   steps: 296   lr:
0.0001     reward: 1.53
epis: 474   score: 0.0   mem len: 88126   epsilon: 1.0   steps: 122   lr:
0.0001     reward: 1.52
epis: 475   score: 2.0   mem len: 88305   epsilon: 1.0   steps: 179   lr:
0.0001     reward: 1.53
epis: 476   score: 1.0   mem len: 88475   epsilon: 1.0   steps: 170   lr:
0.0001     reward: 1.53
epis: 477   score: 0.0   mem len: 88598   epsilon: 1.0   steps: 123   lr:
0.0001     reward: 1.52
epis: 478   score: 2.0   mem len: 88798   epsilon: 1.0   steps: 200   lr:
0.0001     reward: 1.53
epis: 479   score: 0.0   mem len: 88920   epsilon: 1.0   steps: 122   lr:
0.0001     reward: 1.52
epis: 480   score: 3.0   mem len: 89187   epsilon: 1.0   steps: 267   lr:
0.0001     reward: 1.55
epis: 481   score: 7.0   mem len: 89486   epsilon: 1.0   steps: 299   lr:
0.0001     reward: 1.62
epis: 482   score: 0.0   mem len: 89609   epsilon: 1.0   steps: 123   lr:
0.0001     reward: 1.6
epis: 483   score: 3.0   mem len: 89876   epsilon: 1.0   steps: 267   lr:
0.0001     reward: 1.6
epis: 484   score: 2.0   mem len: 90076   epsilon: 1.0   steps: 200   lr:
```

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0.0001      reward: 1.6
epis: 485    score: 0.0    mem len: 90198    epsilon: 1.0    steps: 122    lr:
0.0001      reward: 1.58
epis: 486    score: 1.0    mem len: 90349    epsilon: 1.0    steps: 151    lr:
0.0001      reward: 1.59
epis: 487    score: 0.0    mem len: 90472    epsilon: 1.0    steps: 123    lr:
0.0001      reward: 1.58
epis: 488    score: 1.0    mem len: 90641    epsilon: 1.0    steps: 169    lr:
0.0001      reward: 1.58
epis: 489    score: 2.0    mem len: 90839    epsilon: 1.0    steps: 198    lr:
0.0001      reward: 1.58
epis: 490    score: 1.0    mem len: 90989    epsilon: 1.0    steps: 150    lr:
0.0001      reward: 1.59
epis: 491    score: 2.0    mem len: 91187    epsilon: 1.0    steps: 198    lr:
0.0001      reward: 1.59
epis: 492    score: 0.0    mem len: 91309    epsilon: 1.0    steps: 122    lr:
0.0001      reward: 1.59
epis: 493    score: 0.0    mem len: 91432    epsilon: 1.0    steps: 123    lr:
0.0001      reward: 1.56
epis: 494    score: 1.0    mem len: 91582    epsilon: 1.0    steps: 150    lr:
0.0001      reward: 1.56
epis: 495    score: 2.0    mem len: 91779    epsilon: 1.0    steps: 197    lr:
0.0001      reward: 1.58
epis: 496    score: 1.0    mem len: 91947    epsilon: 1.0    steps: 168    lr:
0.0001      reward: 1.56
epis: 497    score: 1.0    mem len: 92097    epsilon: 1.0    steps: 150    lr:
0.0001      reward: 1.56
epis: 498    score: 0.0    mem len: 92220    epsilon: 1.0    steps: 123    lr:
0.0001      reward: 1.54
epis: 499    score: 2.0    mem len: 92418    epsilon: 1.0    steps: 198    lr:
0.0001      reward: 1.56
epis: 500    score: 1.0    mem len: 92587    epsilon: 1.0    steps: 169    lr:
0.0001      reward: 1.54
epis: 501    score: 4.0    mem len: 92882    epsilon: 1.0    steps: 295    lr:
0.0001      reward: 1.57
epis: 502    score: 0.0    mem len: 93005    epsilon: 1.0    steps: 123    lr:
0.0001      reward: 1.55
epis: 503    score: 2.0    mem len: 93203    epsilon: 1.0    steps: 198    lr:
0.0001      reward: 1.56
epis: 504    score: 0.0    mem len: 93326    epsilon: 1.0    steps: 123    lr:
0.0001      reward: 1.56
epis: 505    score: 1.0    mem len: 93495    epsilon: 1.0    steps: 169    lr:
0.0001      reward: 1.57
epis: 506    score: 2.0    mem len: 93677    epsilon: 1.0    steps: 182    lr:
0.0001      reward: 1.52
epis: 507    score: 1.0    mem len: 93846    epsilon: 1.0    steps: 169    lr:
0.0001      reward: 1.52
epis: 508    score: 0.0    mem len: 93969    epsilon: 1.0    steps: 123    lr:
```

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0.0001     reward: 1.52
epis: 509   score: 2.0   mem len: 94167   epsilon: 1.0    steps: 198    lr:
0.0001     reward: 1.52
epis: 510   score: 1.0   mem len: 94335   epsilon: 1.0    steps: 168    lr:
0.0001     reward: 1.48
epis: 511   score: 2.0   mem len: 94553   epsilon: 1.0    steps: 218    lr:
0.0001     reward: 1.49
epis: 512   score: 0.0   mem len: 94676   epsilon: 1.0    steps: 123    lr:
0.0001     reward: 1.47
epis: 513   score: 0.0   mem len: 94799   epsilon: 1.0    steps: 123    lr:
0.0001     reward: 1.47
epis: 514   score: 0.0   mem len: 94921   epsilon: 1.0    steps: 122    lr:
0.0001     reward: 1.46
epis: 515   score: 0.0   mem len: 95044   epsilon: 1.0    steps: 123    lr:
0.0001     reward: 1.41
epis: 516   score: 1.0   mem len: 95213   epsilon: 1.0    steps: 169    lr:
0.0001     reward: 1.42
epis: 517   score: 3.0   mem len: 95461   epsilon: 1.0    steps: 248    lr:
0.0001     reward: 1.41
epis: 518   score: 0.0   mem len: 95584   epsilon: 1.0    steps: 123    lr:
0.0001     reward: 1.4
epis: 519   score: 1.0   mem len: 95734   epsilon: 1.0    steps: 150    lr:
0.0001     reward: 1.41
epis: 520   score: 2.0   mem len: 95955   epsilon: 1.0    steps: 221    lr:
0.0001     reward: 1.39
epis: 521   score: 0.0   mem len: 96078   epsilon: 1.0    steps: 123    lr:
0.0001     reward: 1.39
epis: 522   score: 1.0   mem len: 96249   epsilon: 1.0    steps: 171    lr:
0.0001     reward: 1.4
epis: 523   score: 2.0   mem len: 96467   epsilon: 1.0    steps: 218    lr:
0.0001     reward: 1.42
epis: 524   score: 0.0   mem len: 96590   epsilon: 1.0    steps: 123    lr:
0.0001     reward: 1.42
epis: 525   score: 1.0   mem len: 96761   epsilon: 1.0    steps: 171    lr:
0.0001     reward: 1.41
epis: 526   score: 2.0   mem len: 96961   epsilon: 1.0    steps: 200    lr:
0.0001     reward: 1.41
epis: 527   score: 2.0   mem len: 97160   epsilon: 1.0    steps: 199    lr:
0.0001     reward: 1.41
epis: 528   score: 3.0   mem len: 97403   epsilon: 1.0    steps: 243    lr:
0.0001     reward: 1.44
epis: 529   score: 3.0   mem len: 97654   epsilon: 1.0    steps: 251    lr:
0.0001     reward: 1.47
epis: 530   score: 1.0   mem len: 97805   epsilon: 1.0    steps: 151    lr:
0.0001     reward: 1.44
epis: 531   score: 1.0   mem len: 97975   epsilon: 1.0    steps: 170    lr:
0.0001     reward: 1.45
epis: 532   score: 2.0   mem len: 98172   epsilon: 1.0    steps: 197    lr:
```

```
0.0001       reward: 1.46
epis: 533    score: 3.0    mem len: 98420    epsilon: 1.0     steps: 248     lr:
0.0001       reward: 1.48
epis: 534    score: 2.0    mem len: 98617    epsilon: 1.0     steps: 197     lr:
0.0001       reward: 1.5
epis: 535    score: 4.0    mem len: 98914    epsilon: 1.0     steps: 297     lr:
0.0001       reward: 1.52
epis: 536    score: 1.0    mem len: 99065    epsilon: 1.0     steps: 151     lr:
0.0001       reward: 1.51
epis: 537    score: 5.0    mem len: 99391    epsilon: 1.0     steps: 326     lr:
0.0001       reward: 1.54
epis: 538    score: 0.0    mem len: 99513    epsilon: 1.0     steps: 122     lr:
0.0001       reward: 1.52
epis: 539    score: 4.0    mem len: 99806    epsilon: 1.0     steps: 293     lr:
0.0001       reward: 1.55
epis: 540    score: 1.0    mem len: 99977    epsilon: 1.0     steps: 171     lr:
0.0001       reward: 1.56
```

/home/kaiwenjon/Documents/Spring2023/Deep-Learning-for-
CV/spring2023/MP5/assignment5_materials/assignment5_materials/memory.py:29:
VisibleDeprecationWarning: Creating an ndarray from ragged nested sequences
(which is a list-or-tuple of lists-or-tuples-or ndarrays with different lengths
or shapes) is deprecated. If you meant to do this, you must specify
'dtype=object' when creating the ndarray.
  sample = np.array(sample)
/home/kaiwenjon/Documents/Spring2023/Deep-Learning-for-CV/spring2023/MP5/assignm
ent5_materials/assignment5_materials/agent_double.py:81:
VisibleDeprecationWarning: Creating an ndarray from ragged nested sequences
(which is a list-or-tuple of lists-or-tuples-or ndarrays with different lengths
or shapes) is deprecated. If you meant to do this, you must specify
'dtype=object' when creating the ndarray.
  mini_batch = np.array(mini_batch).transpose()
/home/kaiwenjon/Documents/Spring2023/Deep-Learning-for-CV/spring2023/MP5/assignm
ent5_materials/assignment5_materials/agent_double.py:121: UserWarning: indexing
with dtype torch.uint8 is now deprecated, please use a dtype torch.bool instead.
(Triggered internally at /opt/conda/conda-
bld/pytorch_1670525551200/work/aten/src/ATen/native/IndexingUtils.h:27.)
  next_q_values[mask] = self.target_net(non_final_next_states).gather(1,
next_action.unsqueeze(1)).cuda()[mask]

```
epis: 541    score: 0.0    mem len: 100100    epsilon: 0.9998    steps: 123     lr:
0.0001       reward: 1.52
epis: 542    score: 1.0    mem len: 100251    epsilon: 0.9995    steps: 151     lr:
0.0001       reward: 1.52
epis: 543    score: 0.0    mem len: 100374    epsilon: 0.9993    steps: 123     lr:
0.0001       reward: 1.5
epis: 544    score: 1.0    mem len: 100525    epsilon: 0.999     steps: 151     lr:
0.0001       reward: 1.51
epis: 545    score: 1.0    mem len: 100693    epsilon: 0.9986    steps: 168     lr:
```

```
0.0001      reward: 1.51
epis: 546   score: 1.0   mem len: 100862   epsilon: 0.9983   steps: 169   lr:
0.0001      reward: 1.49
epis: 547   score: 3.0   mem len: 101108   epsilon: 0.9978   steps: 246   lr:
0.0001      reward: 1.51
epis: 548   score: 1.0   mem len: 101277   epsilon: 0.9975   steps: 169   lr:
0.0001      reward: 1.48
epis: 549   score: 1.0   mem len: 101428   epsilon: 0.9972   steps: 151   lr:
0.0001      reward: 1.48
epis: 550   score: 1.0   mem len: 101579   epsilon: 0.9969   steps: 151   lr:
0.0001      reward: 1.48
epis: 551   score: 4.0   mem len: 101876   epsilon: 0.9963   steps: 297   lr:
0.0001      reward: 1.49
epis: 552   score: 1.0   mem len: 102044   epsilon: 0.996    steps: 168   lr:
0.0001      reward: 1.5
epis: 553   score: 1.0   mem len: 102214   epsilon: 0.9956   steps: 170   lr:
0.0001      reward: 1.5
epis: 554   score: 0.0   mem len: 102337   epsilon: 0.9954   steps: 123   lr:
0.0001      reward: 1.48
epis: 555   score: 5.0   mem len: 102664   epsilon: 0.9947   steps: 327   lr:
0.0001      reward: 1.51
epis: 556   score: 2.0   mem len: 102863   epsilon: 0.9943   steps: 199   lr:
0.0001      reward: 1.49
epis: 557   score: 0.0   mem len: 102986   epsilon: 0.9941   steps: 123   lr:
0.0001      reward: 1.46
epis: 558   score: 2.0   mem len: 103184   epsilon: 0.9937   steps: 198   lr:
0.0001      reward: 1.46
epis: 559   score: 3.0   mem len: 103431   epsilon: 0.9932   steps: 247   lr:
0.0001      reward: 1.47
epis: 560   score: 0.0   mem len: 103554   epsilon: 0.993    steps: 123   lr:
0.0001      reward: 1.43
epis: 561   score: 1.0   mem len: 103704   epsilon: 0.9927   steps: 150   lr:
0.0001      reward: 1.43
epis: 562   score: 2.0   mem len: 103901   epsilon: 0.9923   steps: 197   lr:
0.0001      reward: 1.45
epis: 563   score: 4.0   mem len: 104157   epsilon: 0.9918   steps: 256   lr:
0.0001      reward: 1.46
epis: 564   score: 2.0   mem len: 104375   epsilon: 0.9913   steps: 218   lr:
0.0001      reward: 1.47
epis: 565   score: 2.0   mem len: 104572   epsilon: 0.9909   steps: 197   lr:
0.0001      reward: 1.46
epis: 566   score: 1.0   mem len: 104743   epsilon: 0.9906   steps: 171   lr:
0.0001      reward: 1.46
epis: 567   score: 1.0   mem len: 104911   epsilon: 0.9903   steps: 168   lr:
0.0001      reward: 1.47
epis: 568   score: 2.0   mem len: 105131   epsilon: 0.9898   steps: 220   lr:
0.0001      reward: 1.48
epis: 569   score: 0.0   mem len: 105254   epsilon: 0.9896   steps: 123   lr:
```

```
0.0001      reward: 1.43
epis: 570   score: 0.0   mem len: 105376   epsilon: 0.9894   steps: 122   lr:
0.0001      reward: 1.43
epis: 571   score: 2.0   mem len: 105594   epsilon: 0.9889   steps: 218   lr:
0.0001      reward: 1.44
epis: 572   score: 0.0   mem len: 105717   epsilon: 0.9887   steps: 123   lr:
0.0001      reward: 1.44
epis: 573   score: 2.0   mem len: 105914   epsilon: 0.9883   steps: 197   lr:
0.0001      reward: 1.42
epis: 574   score: 3.0   mem len: 106141   epsilon: 0.9878   steps: 227   lr:
0.0001      reward: 1.45
epis: 575   score: 1.0   mem len: 106310   epsilon: 0.9875   steps: 169   lr:
0.0001      reward: 1.44
epis: 576   score: 0.0   mem len: 106433   epsilon: 0.9873   steps: 123   lr:
0.0001      reward: 1.43
epis: 577   score: 1.0   mem len: 106602   epsilon: 0.9869   steps: 169   lr:
0.0001      reward: 1.44
epis: 578   score: 0.0   mem len: 106725   epsilon: 0.9867   steps: 123   lr:
0.0001      reward: 1.42
epis: 579   score: 1.0   mem len: 106894   epsilon: 0.9863   steps: 169   lr:
0.0001      reward: 1.43
epis: 580   score: 2.0   mem len: 107092   epsilon: 0.986    steps: 198   lr:
0.0001      reward: 1.42
epis: 581   score: 2.0   mem len: 107310   epsilon: 0.9855   steps: 218   lr:
0.0001      reward: 1.37
epis: 582   score: 2.0   mem len: 107508   epsilon: 0.9851   steps: 198   lr:
0.0001      reward: 1.39
epis: 583   score: 1.0   mem len: 107659   epsilon: 0.9848   steps: 151   lr:
0.0001      reward: 1.37
epis: 584   score: 3.0   mem len: 107906   epsilon: 0.9843   steps: 247   lr:
0.0001      reward: 1.38
epis: 585   score: 2.0   mem len: 108103   epsilon: 0.984    steps: 197   lr:
0.0001      reward: 1.4
epis: 586   score: 0.0   mem len: 108226   epsilon: 0.9837   steps: 123   lr:
0.0001      reward: 1.39
epis: 587   score: 0.0   mem len: 108349   epsilon: 0.9835   steps: 123   lr:
0.0001      reward: 1.39
epis: 588   score: 1.0   mem len: 108519   epsilon: 0.9831   steps: 170   lr:
0.0001      reward: 1.39
epis: 589   score: 2.0   mem len: 108717   epsilon: 0.9827   steps: 198   lr:
0.0001      reward: 1.39
epis: 590   score: 1.0   mem len: 108869   epsilon: 0.9824   steps: 152   lr:
0.0001      reward: 1.39
epis: 591   score: 1.0   mem len: 109019   epsilon: 0.9821   steps: 150   lr:
0.0001      reward: 1.38
epis: 592   score: 1.0   mem len: 109191   epsilon: 0.9818   steps: 172   lr:
0.0001      reward: 1.39
epis: 593   score: 3.0   mem len: 109435   epsilon: 0.9813   steps: 244   lr:
```

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0.0001      reward: 1.42
epis: 594    score: 0.0    mem len: 109558    epsilon: 0.9811    steps: 123    lr:
0.0001      reward: 1.41
epis: 595    score: 2.0    mem len: 109756    epsilon: 0.9807    steps: 198    lr:
0.0001      reward: 1.41
epis: 596    score: 0.0    mem len: 109879    epsilon: 0.9804    steps: 123    lr:
0.0001      reward: 1.4
epis: 597    score: 1.0    mem len: 110048    epsilon: 0.9801    steps: 169    lr:
0.0001      reward: 1.4
epis: 598    score: 2.0    mem len: 110245    epsilon: 0.9797    steps: 197    lr:
0.0001      reward: 1.42
epis: 599    score: 2.0    mem len: 110442    epsilon: 0.9793    steps: 197    lr:
0.0001      reward: 1.42
epis: 600    score: 1.0    mem len: 110593    epsilon: 0.979    steps: 151    lr:
0.0001      reward: 1.42
epis: 601    score: 0.0    mem len: 110716    epsilon: 0.9788    steps: 123    lr:
0.0001      reward: 1.38
epis: 602    score: 1.0    mem len: 110886    epsilon: 0.9784    steps: 170    lr:
0.0001      reward: 1.39
epis: 603    score: 0.0    mem len: 111009    epsilon: 0.9782    steps: 123    lr:
0.0001      reward: 1.37
epis: 604    score: 0.0    mem len: 111131    epsilon: 0.978    steps: 122    lr:
0.0001      reward: 1.37
epis: 605    score: 1.0    mem len: 111299    epsilon: 0.9776    steps: 168    lr:
0.0001      reward: 1.37
epis: 606    score: 5.0    mem len: 111621    epsilon: 0.977    steps: 322    lr:
0.0001      reward: 1.4
epis: 607    score: 5.0    mem len: 111935    epsilon: 0.9764    steps: 314    lr:
0.0001      reward: 1.44
epis: 608    score: 2.0    mem len: 112153    epsilon: 0.9759    steps: 218    lr:
0.0001      reward: 1.46
epis: 609    score: 1.0    mem len: 112324    epsilon: 0.9756    steps: 171    lr:
0.0001      reward: 1.45
epis: 610    score: 1.0    mem len: 112493    epsilon: 0.9753    steps: 169    lr:
0.0001      reward: 1.45
epis: 611    score: 0.0    mem len: 112615    epsilon: 0.975    steps: 122    lr:
0.0001      reward: 1.43
epis: 612    score: 1.0    mem len: 112787    epsilon: 0.9747    steps: 172    lr:
0.0001      reward: 1.44
epis: 613    score: 1.0    mem len: 112956    epsilon: 0.9743    steps: 169    lr:
0.0001      reward: 1.45
epis: 614    score: 0.0    mem len: 113078    epsilon: 0.9741    steps: 122    lr:
0.0001      reward: 1.45
epis: 615    score: 1.0    mem len: 113228    epsilon: 0.9738    steps: 150    lr:
0.0001      reward: 1.46
epis: 616    score: 1.0    mem len: 113397    epsilon: 0.9735    steps: 169    lr:
0.0001      reward: 1.46
epis: 617    score: 0.0    mem len: 113520    epsilon: 0.9732    steps: 123    lr:
```

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0.0001      reward: 1.43
epis: 618   score: 1.0   mem len: 113670   epsilon: 0.9729   steps: 150   lr:
0.0001      reward: 1.44
epis: 619   score: 3.0   mem len: 113937   epsilon: 0.9724   steps: 267   lr:
0.0001      reward: 1.46
epis: 620   score: 3.0   mem len: 114181   epsilon: 0.9719   steps: 244   lr:
0.0001      reward: 1.47
epis: 621   score: 0.0   mem len: 114304   epsilon: 0.9717   steps: 123   lr:
0.0001      reward: 1.47
epis: 622   score: 0.0   mem len: 114427   epsilon: 0.9714   steps: 123   lr:
0.0001      reward: 1.46
epis: 623   score: 3.0   mem len: 114677   epsilon: 0.9709   steps: 250   lr:
0.0001      reward: 1.47
epis: 624   score: 4.0   mem len: 114977   epsilon: 0.9703   steps: 300   lr:
0.0001      reward: 1.51
epis: 625   score: 2.0   mem len: 115178   epsilon: 0.9699   steps: 201   lr:
0.0001      reward: 1.52
epis: 626   score: 0.0   mem len: 115301   epsilon: 0.9697   steps: 123   lr:
0.0001      reward: 1.5
epis: 627   score: 0.0   mem len: 115424   epsilon: 0.9695   steps: 123   lr:
0.0001      reward: 1.48
epis: 628   score: 1.0   mem len: 115594   epsilon: 0.9691   steps: 170   lr:
0.0001      reward: 1.46
epis: 629   score: 4.0   mem len: 115888   epsilon: 0.9685   steps: 294   lr:
0.0001      reward: 1.47
epis: 630   score: 1.0   mem len: 116038   epsilon: 0.9682   steps: 150   lr:
0.0001      reward: 1.47
epis: 631   score: 2.0   mem len: 116259   epsilon: 0.9678   steps: 221   lr:
0.0001      reward: 1.48
epis: 632   score: 1.0   mem len: 116428   epsilon: 0.9675   steps: 169   lr:
0.0001      reward: 1.47
epis: 633   score: 2.0   mem len: 116647   epsilon: 0.967    steps: 219   lr:
0.0001      reward: 1.46
epis: 634   score: 2.0   mem len: 116845   epsilon: 0.9666   steps: 198   lr:
0.0001      reward: 1.46
epis: 635   score: 1.0   mem len: 117016   epsilon: 0.9663   steps: 171   lr:
0.0001      reward: 1.43
epis: 636   score: 1.0   mem len: 117167   epsilon: 0.966    steps: 151   lr:
0.0001      reward: 1.43
epis: 637   score: 1.0   mem len: 117337   epsilon: 0.9657   steps: 170   lr:
0.0001      reward: 1.39
epis: 638   score: 1.0   mem len: 117505   epsilon: 0.9653   steps: 168   lr:
0.0001      reward: 1.4
epis: 639   score: 0.0   mem len: 117628   epsilon: 0.9651   steps: 123   lr:
0.0001      reward: 1.36
epis: 640   score: 0.0   mem len: 117751   epsilon: 0.9649   steps: 123   lr:
0.0001      reward: 1.35
epis: 641   score: 1.0   mem len: 117921   epsilon: 0.9645   steps: 170   lr:
```

```
0.0001     reward: 1.36
epis: 642   score: 0.0   mem len: 118043   epsilon: 0.9643   steps: 122   lr:
0.0001     reward: 1.35
epis: 643   score: 0.0   mem len: 118166   epsilon: 0.964    steps: 123   lr:
0.0001     reward: 1.35
epis: 644   score: 0.0   mem len: 118288   epsilon: 0.9638   steps: 122   lr:
0.0001     reward: 1.34
epis: 645   score: 3.0   mem len: 118538   epsilon: 0.9633   steps: 250   lr:
0.0001     reward: 1.36
epis: 646   score: 0.0   mem len: 118660   epsilon: 0.9631   steps: 122   lr:
0.0001     reward: 1.35
epis: 647   score: 0.0   mem len: 118783   epsilon: 0.9628   steps: 123   lr:
0.0001     reward: 1.32
epis: 648   score: 3.0   mem len: 119010   epsilon: 0.9624   steps: 227   lr:
0.0001     reward: 1.34
epis: 649   score: 4.0   mem len: 119306   epsilon: 0.9618   steps: 296   lr:
0.0001     reward: 1.37
epis: 650   score: 1.0   mem len: 119478   epsilon: 0.9614   steps: 172   lr:
0.0001     reward: 1.37
epis: 651   score: 1.0   mem len: 119646   epsilon: 0.9611   steps: 168   lr:
0.0001     reward: 1.34
epis: 652   score: 0.0   mem len: 119769   epsilon: 0.9609   steps: 123   lr:
0.0001     reward: 1.33
epis: 653   score: 1.0   mem len: 119920   epsilon: 0.9606   steps: 151   lr:
0.0001     reward: 1.33
epis: 654   score: 3.0   mem len: 120166   epsilon: 0.9601   steps: 246   lr:
0.0001     reward: 1.36
epis: 655   score: 4.0   mem len: 120483   epsilon: 0.9594   steps: 317   lr:
0.0001     reward: 1.35
epis: 656   score: 0.0   mem len: 120605   epsilon: 0.9592   steps: 122   lr:
0.0001     reward: 1.33
epis: 657   score: 0.0   mem len: 120728   epsilon: 0.959    steps: 123   lr:
0.0001     reward: 1.33
epis: 658   score: 2.0   mem len: 120909   epsilon: 0.9586   steps: 181   lr:
0.0001     reward: 1.33
epis: 659   score: 0.0   mem len: 121031   epsilon: 0.9584   steps: 122   lr:
0.0001     reward: 1.3
epis: 660   score: 1.0   mem len: 121181   epsilon: 0.9581   steps: 150   lr:
0.0001     reward: 1.31
epis: 661   score: 2.0   mem len: 121399   epsilon: 0.9576   steps: 218   lr:
0.0001     reward: 1.32
epis: 662   score: 2.0   mem len: 121599   epsilon: 0.9572   steps: 200   lr:
0.0001     reward: 1.32
epis: 663   score: 0.0   mem len: 121721   epsilon: 0.957    steps: 122   lr:
0.0001     reward: 1.28
epis: 664   score: 2.0   mem len: 121940   epsilon: 0.9566   steps: 219   lr:
0.0001     reward: 1.28
epis: 665   score: 2.0   mem len: 122137   epsilon: 0.9562   steps: 197   lr:
```

```
0.0001      reward: 1.28
epis: 666   score: 4.0   mem len: 122433   epsilon: 0.9556   steps: 296   lr:
0.0001      reward: 1.31
epis: 667   score: 1.0   mem len: 122604   epsilon: 0.9552   steps: 171   lr:
0.0001      reward: 1.31
epis: 668   score: 2.0   mem len: 122801   epsilon: 0.9549   steps: 197   lr:
0.0001      reward: 1.31
epis: 669   score: 2.0   mem len: 122999   epsilon: 0.9545   steps: 198   lr:
0.0001      reward: 1.33
epis: 670   score: 2.0   mem len: 123197   epsilon: 0.9541   steps: 198   lr:
0.0001      reward: 1.35
epis: 671   score: 1.0   mem len: 123367   epsilon: 0.9537   steps: 170   lr:
0.0001      reward: 1.34
epis: 672   score: 1.0   mem len: 123538   epsilon: 0.9534   steps: 171   lr:
0.0001      reward: 1.35
epis: 673   score: 2.0   mem len: 123736   epsilon: 0.953    steps: 198   lr:
0.0001      reward: 1.35
epis: 674   score: 3.0   mem len: 124001   epsilon: 0.9525   steps: 265   lr:
0.0001      reward: 1.35
epis: 675   score: 3.0   mem len: 124246   epsilon: 0.952    steps: 245   lr:
0.0001      reward: 1.37
epis: 676   score: 1.0   mem len: 124397   epsilon: 0.9517   steps: 151   lr:
0.0001      reward: 1.38
epis: 677   score: 1.0   mem len: 124566   epsilon: 0.9514   steps: 169   lr:
0.0001      reward: 1.38
epis: 678   score: 1.0   mem len: 124717   epsilon: 0.9511   steps: 151   lr:
0.0001      reward: 1.39
epis: 679   score: 5.0   mem len: 125063   epsilon: 0.9504   steps: 346   lr:
0.0001      reward: 1.43
epis: 680   score: 1.0   mem len: 125232   epsilon: 0.95     steps: 169   lr:
0.0001      reward: 1.42
epis: 681   score: 2.0   mem len: 125449   epsilon: 0.9496   steps: 217   lr:
0.0001      reward: 1.42
epis: 682   score: 1.0   mem len: 125600   epsilon: 0.9493   steps: 151   lr:
0.0001      reward: 1.41
epis: 683   score: 2.0   mem len: 125818   epsilon: 0.9489   steps: 218   lr:
0.0001      reward: 1.42
epis: 684   score: 4.0   mem len: 126108   epsilon: 0.9483   steps: 290   lr:
0.0001      reward: 1.43
epis: 685   score: 2.0   mem len: 126306   epsilon: 0.9479   steps: 198   lr:
0.0001      reward: 1.43
epis: 686   score: 2.0   mem len: 126524   epsilon: 0.9475   steps: 218   lr:
0.0001      reward: 1.45
epis: 687   score: 1.0   mem len: 126692   epsilon: 0.9471   steps: 168   lr:
0.0001      reward: 1.46
epis: 688   score: 3.0   mem len: 126919   epsilon: 0.9467   steps: 227   lr:
0.0001      reward: 1.48
epis: 689   score: 2.0   mem len: 127136   epsilon: 0.9463   steps: 217   lr:
```

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0.0001     reward: 1.48
epis: 690   score: 2.0   mem len: 127334   epsilon: 0.9459   steps: 198   lr:
0.0001     reward: 1.49
epis: 691   score: 2.0   mem len: 127532   epsilon: 0.9455   steps: 198   lr:
0.0001     reward: 1.5
epis: 692   score: 3.0   mem len: 127778   epsilon: 0.945    steps: 246   lr:
0.0001     reward: 1.52
epis: 693   score: 7.0   mem len: 128160   epsilon: 0.9442   steps: 382   lr:
0.0001     reward: 1.56
epis: 694   score: 0.0   mem len: 128282   epsilon: 0.944    steps: 122   lr:
0.0001     reward: 1.56
epis: 695   score: 1.0   mem len: 128451   epsilon: 0.9437   steps: 169   lr:
0.0001     reward: 1.55
epis: 696   score: 2.0   mem len: 128633   epsilon: 0.9433   steps: 182   lr:
0.0001     reward: 1.57
epis: 697   score: 0.0   mem len: 128756   epsilon: 0.9431   steps: 123   lr:
0.0001     reward: 1.56
epis: 698   score: 2.0   mem len: 128956   epsilon: 0.9427   steps: 200   lr:
0.0001     reward: 1.56
epis: 699   score: 0.0   mem len: 129078   epsilon: 0.9424   steps: 122   lr:
0.0001     reward: 1.54
epis: 700   score: 2.0   mem len: 129277   epsilon: 0.942    steps: 199   lr:
0.0001     reward: 1.55
epis: 701   score: 0.0   mem len: 129400   epsilon: 0.9418   steps: 123   lr:
0.0001     reward: 1.55
epis: 702   score: 0.0   mem len: 129523   epsilon: 0.9415   steps: 123   lr:
0.0001     reward: 1.54
epis: 703   score: 1.0   mem len: 129674   epsilon: 0.9412   steps: 151   lr:
0.0001     reward: 1.55
epis: 704   score: 0.0   mem len: 129797   epsilon: 0.941    steps: 123   lr:
0.0001     reward: 1.55
epis: 705   score: 1.0   mem len: 129948   epsilon: 0.9407   steps: 151   lr:
0.0001     reward: 1.55
epis: 706   score: 1.0   mem len: 130118   epsilon: 0.9404   steps: 170   lr:
0.0001     reward: 1.51
epis: 707   score: 1.0   mem len: 130289   epsilon: 0.94     steps: 171   lr:
0.0001     reward: 1.47
epis: 708   score: 5.0   mem len: 130609   epsilon: 0.9394   steps: 320   lr:
0.0001     reward: 1.5
epis: 709   score: 0.0   mem len: 130732   epsilon: 0.9391   steps: 123   lr:
0.0001     reward: 1.49
epis: 710   score: 0.0   mem len: 130854   epsilon: 0.9389   steps: 122   lr:
0.0001     reward: 1.48
epis: 711   score: 2.0   mem len: 131053   epsilon: 0.9385   steps: 199   lr:
0.0001     reward: 1.5
epis: 712   score: 0.0   mem len: 131176   epsilon: 0.9383   steps: 123   lr:
0.0001     reward: 1.49
epis: 713   score: 1.0   mem len: 131345   epsilon: 0.9379   steps: 169   lr:
```

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0.0001     reward: 1.49
epis: 714   score: 1.0   mem len: 131497   epsilon: 0.9376   steps: 152   lr:
0.0001     reward: 1.5
epis: 715   score: 4.0   mem len: 131753   epsilon: 0.9371   steps: 256   lr:
0.0001     reward: 1.53
epis: 716   score: 7.0   mem len: 132172   epsilon: 0.9363   steps: 419   lr:
0.0001     reward: 1.59
epis: 717   score: 1.0   mem len: 132323   epsilon: 0.936   steps: 151   lr:
0.0001     reward: 1.6
epis: 718   score: 0.0   mem len: 132446   epsilon: 0.9358   steps: 123   lr:
0.0001     reward: 1.59
epis: 719   score: 2.0   mem len: 132644   epsilon: 0.9354   steps: 198   lr:
0.0001     reward: 1.58
epis: 720   score: 0.0   mem len: 132767   epsilon: 0.9351   steps: 123   lr:
0.0001     reward: 1.55
epis: 721   score: 3.0   mem len: 132992   epsilon: 0.9347   steps: 225   lr:
0.0001     reward: 1.58
epis: 722   score: 1.0   mem len: 133143   epsilon: 0.9344   steps: 151   lr:
0.0001     reward: 1.59
epis: 723   score: 1.0   mem len: 133294   epsilon: 0.9341   steps: 151   lr:
0.0001     reward: 1.57
epis: 724   score: 3.0   mem len: 133543   epsilon: 0.9336   steps: 249   lr:
0.0001     reward: 1.56
epis: 725   score: 1.0   mem len: 133711   epsilon: 0.9333   steps: 168   lr:
0.0001     reward: 1.55
epis: 726   score: 1.0   mem len: 133880   epsilon: 0.9329   steps: 169   lr:
0.0001     reward: 1.56
epis: 727   score: 2.0   mem len: 134078   epsilon: 0.9325   steps: 198   lr:
0.0001     reward: 1.58
epis: 728   score: 2.0   mem len: 134276   epsilon: 0.9321   steps: 198   lr:
0.0001     reward: 1.59
epis: 729   score: 0.0   mem len: 134399   epsilon: 0.9319   steps: 123   lr:
0.0001     reward: 1.55
epis: 730   score: 4.0   mem len: 134674   epsilon: 0.9313   steps: 275   lr:
0.0001     reward: 1.58
epis: 731   score: 2.0   mem len: 134857   epsilon: 0.931   steps: 183   lr:
0.0001     reward: 1.58
epis: 732   score: 1.0   mem len: 135008   epsilon: 0.9307   steps: 151   lr:
0.0001     reward: 1.58
epis: 733   score: 1.0   mem len: 135158   epsilon: 0.9304   steps: 150   lr:
0.0001     reward: 1.57
epis: 734   score: 1.0   mem len: 135327   epsilon: 0.9301   steps: 169   lr:
0.0001     reward: 1.56
epis: 735   score: 1.0   mem len: 135497   epsilon: 0.9297   steps: 170   lr:
0.0001     reward: 1.56
epis: 736   score: 0.0   mem len: 135619   epsilon: 0.9295   steps: 122   lr:
0.0001     reward: 1.55
epis: 737   score: 0.0   mem len: 135741   epsilon: 0.9292   steps: 122   lr:
```

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0.0001       reward: 1.54
epis: 738    score: 0.0    mem len: 135864    epsilon: 0.929     steps: 123    lr:
0.0001       reward: 1.53
epis: 739    score: 1.0    mem len: 136033    epsilon: 0.9287    steps: 169    lr:
0.0001       reward: 1.54
epis: 740    score: 4.0    mem len: 136328    epsilon: 0.9281    steps: 295    lr:
0.0001       reward: 1.58
epis: 741    score: 2.0    mem len: 136526    epsilon: 0.9277    steps: 198    lr:
0.0001       reward: 1.59
epis: 742    score: 0.0    mem len: 136648    epsilon: 0.9274    steps: 122    lr:
0.0001       reward: 1.59
epis: 743    score: 2.0    mem len: 136845    epsilon: 0.927     steps: 197    lr:
0.0001       reward: 1.61
epis: 744    score: 3.0    mem len: 137109    epsilon: 0.9265    steps: 264    lr:
0.0001       reward: 1.64
epis: 745    score: 0.0    mem len: 137231    epsilon: 0.9263    steps: 122    lr:
0.0001       reward: 1.61
epis: 746    score: 1.0    mem len: 137400    epsilon: 0.9259    steps: 169    lr:
0.0001       reward: 1.62
epis: 747    score: 2.0    mem len: 137617    epsilon: 0.9255    steps: 217    lr:
0.0001       reward: 1.64
epis: 748    score: 0.0    mem len: 137739    epsilon: 0.9253    steps: 122    lr:
0.0001       reward: 1.61
epis: 749    score: 5.0    mem len: 138065    epsilon: 0.9246    steps: 326    lr:
0.0001       reward: 1.62
epis: 750    score: 3.0    mem len: 138312    epsilon: 0.9241    steps: 247    lr:
0.0001       reward: 1.64
epis: 751    score: 0.0    mem len: 138435    epsilon: 0.9239    steps: 123    lr:
0.0001       reward: 1.63
epis: 752    score: 2.0    mem len: 138633    epsilon: 0.9235    steps: 198    lr:
0.0001       reward: 1.65
epis: 753    score: 2.0    mem len: 138849    epsilon: 0.9231    steps: 216    lr:
0.0001       reward: 1.66
epis: 754    score: 4.0    mem len: 139145    epsilon: 0.9225    steps: 296    lr:
0.0001       reward: 1.67
epis: 755    score: 1.0    mem len: 139297    epsilon: 0.9222    steps: 152    lr:
0.0001       reward: 1.64
epis: 756    score: 3.0    mem len: 139566    epsilon: 0.9217    steps: 269    lr:
0.0001       reward: 1.67
epis: 757    score: 3.0    mem len: 139816    epsilon: 0.9212    steps: 250    lr:
0.0001       reward: 1.7
epis: 758    score: 0.0    mem len: 139939    epsilon: 0.9209    steps: 123    lr:
0.0001       reward: 1.68
epis: 759    score: 2.0    mem len: 140137    epsilon: 0.9205    steps: 198    lr:
0.0001       reward: 1.7
epis: 760    score: 3.0    mem len: 140364    epsilon: 0.9201    steps: 227    lr:
0.0001       reward: 1.72
epis: 761    score: 1.0    mem len: 140533    epsilon: 0.9197    steps: 169    lr:
```

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0.0001      reward: 1.71
epis: 762    score: 2.0    mem len: 140731    epsilon: 0.9194    steps: 198    lr:
0.0001      reward: 1.71
epis: 763    score: 0.0    mem len: 140854    epsilon: 0.9191    steps: 123    lr:
0.0001      reward: 1.71
epis: 764    score: 2.0    mem len: 141051    epsilon: 0.9187    steps: 197    lr:
0.0001      reward: 1.71
epis: 765    score: 0.0    mem len: 141174    epsilon: 0.9185    steps: 123    lr:
0.0001      reward: 1.69
epis: 766    score: 1.0    mem len: 141344    epsilon: 0.9181    steps: 170    lr:
0.0001      reward: 1.66
epis: 767    score: 3.0    mem len: 141591    epsilon: 0.9176    steps: 247    lr:
0.0001      reward: 1.68
epis: 768    score: 3.0    mem len: 141817    epsilon: 0.9172    steps: 226    lr:
0.0001      reward: 1.69
epis: 769    score: 2.0    mem len: 142020    epsilon: 0.9168    steps: 203    lr:
0.0001      reward: 1.69
epis: 770    score: 0.0    mem len: 142143    epsilon: 0.9166    steps: 123    lr:
0.0001      reward: 1.67
epis: 771    score: 3.0    mem len: 142371    epsilon: 0.9161    steps: 228    lr:
0.0001      reward: 1.69
epis: 772    score: 3.0    mem len: 142597    epsilon: 0.9157    steps: 226    lr:
0.0001      reward: 1.71
epis: 773    score: 1.0    mem len: 142766    epsilon: 0.9153    steps: 169    lr:
0.0001      reward: 1.7
epis: 774    score: 1.0    mem len: 142936    epsilon: 0.915     steps: 170    lr:
0.0001      reward: 1.68
epis: 775    score: 0.0    mem len: 143059    epsilon: 0.9147    steps: 123    lr:
0.0001      reward: 1.65
epis: 776    score: 1.0    mem len: 143210    epsilon: 0.9144    steps: 151    lr:
0.0001      reward: 1.65
epis: 777    score: 1.0    mem len: 143380    epsilon: 0.9141    steps: 170    lr:
0.0001      reward: 1.65
epis: 778    score: 0.0    mem len: 143503    epsilon: 0.9139    steps: 123    lr:
0.0001      reward: 1.64
epis: 779    score: 3.0    mem len: 143749    epsilon: 0.9134    steps: 246    lr:
0.0001      reward: 1.62
epis: 780    score: 1.0    mem len: 143918    epsilon: 0.913     steps: 169    lr:
0.0001      reward: 1.62
epis: 781    score: 2.0    mem len: 144136    epsilon: 0.9126    steps: 218    lr:
0.0001      reward: 1.62
epis: 782    score: 1.0    mem len: 144287    epsilon: 0.9123    steps: 151    lr:
0.0001      reward: 1.62
epis: 783    score: 3.0    mem len: 144533    epsilon: 0.9118    steps: 246    lr:
0.0001      reward: 1.63
epis: 784    score: 3.0    mem len: 144760    epsilon: 0.9114    steps: 227    lr:
0.0001      reward: 1.62
epis: 785    score: 4.0    mem len: 145055    epsilon: 0.9108    steps: 295    lr:
```

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0.0001     reward: 1.64
epis: 786   score: 3.0   mem len: 145300   epsilon: 0.9103   steps: 245   lr:
0.0001     reward: 1.65
epis: 787   score: 0.0   mem len: 145422   epsilon: 0.9101   steps: 122   lr:
0.0001     reward: 1.64
epis: 788   score: 0.0   mem len: 145544   epsilon: 0.9098   steps: 122   lr:
0.0001     reward: 1.61
epis: 789   score: 0.0   mem len: 145666   epsilon: 0.9096   steps: 122   lr:
0.0001     reward: 1.59
epis: 790   score: 3.0   mem len: 145911   epsilon: 0.9091   steps: 245   lr:
0.0001     reward: 1.6
epis: 791   score: 8.0   mem len: 146255   epsilon: 0.9084   steps: 344   lr:
0.0001     reward: 1.66
epis: 792   score: 1.0   mem len: 146424   epsilon: 0.9081   steps: 169   lr:
0.0001     reward: 1.64
epis: 793   score: 0.0   mem len: 146546   epsilon: 0.9078   steps: 122   lr:
0.0001     reward: 1.57
epis: 794   score: 3.0   mem len: 146792   epsilon: 0.9073   steps: 246   lr:
0.0001     reward: 1.6
epis: 795   score: 2.0   mem len: 146991   epsilon: 0.907   steps: 199   lr:
0.0001     reward: 1.61
epis: 796   score: 1.0   mem len: 147142   epsilon: 0.9067   steps: 151   lr:
0.0001     reward: 1.6
epis: 797   score: 2.0   mem len: 147360   epsilon: 0.9062   steps: 218   lr:
0.0001     reward: 1.62
epis: 798   score: 1.0   mem len: 147531   epsilon: 0.9059   steps: 171   lr:
0.0001     reward: 1.61
epis: 799   score: 3.0   mem len: 147796   epsilon: 0.9054   steps: 265   lr:
0.0001     reward: 1.64
epis: 800   score: 0.0   mem len: 147919   epsilon: 0.9051   steps: 123   lr:
0.0001     reward: 1.62
epis: 801   score: 2.0   mem len: 148136   epsilon: 0.9047   steps: 217   lr:
0.0001     reward: 1.64
epis: 802   score: 2.0   mem len: 148357   epsilon: 0.9043   steps: 221   lr:
0.0001     reward: 1.66
epis: 803   score: 0.0   mem len: 148479   epsilon: 0.904   steps: 122   lr:
0.0001     reward: 1.65
epis: 804   score: 1.0   mem len: 148651   epsilon: 0.9037   steps: 172   lr:
0.0001     reward: 1.66
epis: 805   score: 0.0   mem len: 148774   epsilon: 0.9034   steps: 123   lr:
0.0001     reward: 1.65
epis: 806   score: 2.0   mem len: 148993   epsilon: 0.903   steps: 219   lr:
0.0001     reward: 1.66
epis: 807   score: 0.0   mem len: 149116   epsilon: 0.9027   steps: 123   lr:
0.0001     reward: 1.65
epis: 808   score: 1.0   mem len: 149267   epsilon: 0.9024   steps: 151   lr:
0.0001     reward: 1.61
epis: 809   score: 0.0   mem len: 149389   epsilon: 0.9022   steps: 122   lr:
```

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0.0001      reward: 1.61
epis: 810    score: 0.0    mem len: 149511    epsilon: 0.902    steps: 122    lr:
0.0001      reward: 1.61
epis: 811    score: 0.0    mem len: 149633    epsilon: 0.9017    steps: 122    lr:
0.0001      reward: 1.59
epis: 812    score: 2.0    mem len: 149830    epsilon: 0.9013    steps: 197    lr:
0.0001      reward: 1.61
epis: 813    score: 2.0    mem len: 150027    epsilon: 0.9009    steps: 197    lr:
0.0001      reward: 1.62
epis: 814    score: 3.0    mem len: 150293    epsilon: 0.9004    steps: 266    lr:
0.0001      reward: 1.64
epis: 815    score: 4.0    mem len: 150588    epsilon: 0.8998    steps: 295    lr:
0.0001      reward: 1.64
epis: 816    score: 0.0    mem len: 150710    epsilon: 0.8996    steps: 122    lr:
0.0001      reward: 1.57
epis: 817    score: 1.0    mem len: 150879    epsilon: 0.8993    steps: 169    lr:
0.0001      reward: 1.57
epis: 818    score: 2.0    mem len: 151077    epsilon: 0.8989    steps: 198    lr:
0.0001      reward: 1.59
epis: 819    score: 0.0    mem len: 151200    epsilon: 0.8986    steps: 123    lr:
0.0001      reward: 1.57
epis: 820    score: 0.0    mem len: 151323    epsilon: 0.8984    steps: 123    lr:
0.0001      reward: 1.57
epis: 821    score: 1.0    mem len: 151491    epsilon: 0.898    steps: 168    lr:
0.0001      reward: 1.55
epis: 822    score: 1.0    mem len: 151660    epsilon: 0.8977    steps: 169    lr:
0.0001      reward: 1.55
epis: 823    score: 1.0    mem len: 151831    epsilon: 0.8974    steps: 171    lr:
0.0001      reward: 1.55
epis: 824    score: 2.0    mem len: 152028    epsilon: 0.897    steps: 197    lr:
0.0001      reward: 1.54
epis: 825    score: 2.0    mem len: 152229    epsilon: 0.8966    steps: 201    lr:
0.0001      reward: 1.55
epis: 826    score: 2.0    mem len: 152427    epsilon: 0.8962    steps: 198    lr:
0.0001      reward: 1.56
epis: 827    score: 3.0    mem len: 152695    epsilon: 0.8957    steps: 268    lr:
0.0001      reward: 1.57
epis: 828    score: 2.0    mem len: 152893    epsilon: 0.8953    steps: 198    lr:
0.0001      reward: 1.57
epis: 829    score: 3.0    mem len: 153121    epsilon: 0.8948    steps: 228    lr:
0.0001      reward: 1.6
epis: 830    score: 0.0    mem len: 153243    epsilon: 0.8946    steps: 122    lr:
0.0001      reward: 1.56
epis: 831    score: 0.0    mem len: 153365    epsilon: 0.8943    steps: 122    lr:
0.0001      reward: 1.54
epis: 832    score: 1.0    mem len: 153535    epsilon: 0.894    steps: 170    lr:
0.0001      reward: 1.54
epis: 833    score: 0.0    mem len: 153658    epsilon: 0.8938    steps: 123    lr:
```

```
0.0001      reward: 1.53
epis: 834   score: 0.0   mem len: 153781   epsilon: 0.8935   steps: 123   lr:
0.0001      reward: 1.52
epis: 835   score: 1.0   mem len: 153931   epsilon: 0.8932   steps: 150   lr:
0.0001      reward: 1.52
epis: 836   score: 3.0   mem len: 154160   epsilon: 0.8928   steps: 229   lr:
0.0001      reward: 1.55
epis: 837   score: 3.0   mem len: 154407   epsilon: 0.8923   steps: 247   lr:
0.0001      reward: 1.58
epis: 838   score: 1.0   mem len: 154557   epsilon: 0.892    steps: 150   lr:
0.0001      reward: 1.59
epis: 839   score: 1.0   mem len: 154707   epsilon: 0.8917   steps: 150   lr:
0.0001      reward: 1.59
epis: 840   score: 0.0   mem len: 154830   epsilon: 0.8914   steps: 123   lr:
0.0001      reward: 1.55
epis: 841   score: 4.0   mem len: 155105   epsilon: 0.8909   steps: 275   lr:
0.0001      reward: 1.57
epis: 842   score: 1.0   mem len: 155256   epsilon: 0.8906   steps: 151   lr:
0.0001      reward: 1.58
epis: 843   score: 1.0   mem len: 155427   epsilon: 0.8903   steps: 171   lr:
0.0001      reward: 1.57
epis: 844   score: 3.0   mem len: 155671   epsilon: 0.8898   steps: 244   lr:
0.0001      reward: 1.57
epis: 845   score: 2.0   mem len: 155868   epsilon: 0.8894   steps: 197   lr:
0.0001      reward: 1.59
epis: 846   score: 1.0   mem len: 156036   epsilon: 0.889    steps: 168   lr:
0.0001      reward: 1.59
epis: 847   score: 2.0   mem len: 156233   epsilon: 0.8887   steps: 197   lr:
0.0001      reward: 1.59
epis: 848   score: 5.0   mem len: 156577   epsilon: 0.888    steps: 344   lr:
0.0001      reward: 1.64
epis: 849   score: 2.0   mem len: 156777   epsilon: 0.8876   steps: 200   lr:
0.0001      reward: 1.61
epis: 850   score: 2.0   mem len: 156974   epsilon: 0.8872   steps: 197   lr:
0.0001      reward: 1.6
epis: 851   score: 0.0   mem len: 157096   epsilon: 0.8869   steps: 122   lr:
0.0001      reward: 1.6
epis: 852   score: 3.0   mem len: 157327   epsilon: 0.8865   steps: 231   lr:
0.0001      reward: 1.61
epis: 853   score: 3.0   mem len: 157570   epsilon: 0.886    steps: 243   lr:
0.0001      reward: 1.62
epis: 854   score: 2.0   mem len: 157768   epsilon: 0.8856   steps: 198   lr:
0.0001      reward: 1.6
epis: 855   score: 2.0   mem len: 157948   epsilon: 0.8853   steps: 180   lr:
0.0001      reward: 1.61
epis: 856   score: 0.0   mem len: 158071   epsilon: 0.885    steps: 123   lr:
0.0001      reward: 1.58
epis: 857   score: 0.0   mem len: 158194   epsilon: 0.8848   steps: 123   lr:
```

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0.0001      reward: 1.55
epis: 858    score: 0.0    mem len: 158316    epsilon: 0.8845    steps: 122    lr:
0.0001      reward: 1.55
epis: 859    score: 0.0    mem len: 158439    epsilon: 0.8843    steps: 123    lr:
0.0001      reward: 1.53
epis: 860    score: 3.0    mem len: 158684    epsilon: 0.8838    steps: 245    lr:
0.0001      reward: 1.53
epis: 861    score: 2.0    mem len: 158866    epsilon: 0.8834    steps: 182    lr:
0.0001      reward: 1.54
epis: 862    score: 3.0    mem len: 159115    epsilon: 0.883    steps: 249    lr:
0.0001      reward: 1.55
epis: 863    score: 3.0    mem len: 159384    epsilon: 0.8824    steps: 269    lr:
0.0001      reward: 1.58
epis: 864    score: 0.0    mem len: 159506    epsilon: 0.8822    steps: 122    lr:
0.0001      reward: 1.56
epis: 865    score: 1.0    mem len: 159674    epsilon: 0.8818    steps: 168    lr:
0.0001      reward: 1.57
epis: 866    score: 2.0    mem len: 159893    epsilon: 0.8814    steps: 219    lr:
0.0001      reward: 1.58
epis: 867    score: 3.0    mem len: 160142    epsilon: 0.8809    steps: 249    lr:
0.0001      reward: 1.58
epis: 868    score: 3.0    mem len: 160387    epsilon: 0.8804    steps: 245    lr:
0.0001      reward: 1.58
epis: 869    score: 3.0    mem len: 160637    epsilon: 0.8799    steps: 250    lr:
0.0001      reward: 1.59
epis: 870    score: 0.0    mem len: 160760    epsilon: 0.8797    steps: 123    lr:
0.0001      reward: 1.59
epis: 871    score: 4.0    mem len: 161035    epsilon: 0.8791    steps: 275    lr:
0.0001      reward: 1.6
epis: 872    score: 1.0    mem len: 161207    epsilon: 0.8788    steps: 172    lr:
0.0001      reward: 1.58
epis: 873    score: 2.0    mem len: 161424    epsilon: 0.8784    steps: 217    lr:
0.0001      reward: 1.59
epis: 874    score: 2.0    mem len: 161622    epsilon: 0.878    steps: 198    lr:
0.0001      reward: 1.6
epis: 875    score: 3.0    mem len: 161869    epsilon: 0.8775    steps: 247    lr:
0.0001      reward: 1.63
epis: 876    score: 1.0    mem len: 162038    epsilon: 0.8772    steps: 169    lr:
0.0001      reward: 1.63
epis: 877    score: 1.0    mem len: 162188    epsilon: 0.8769    steps: 150    lr:
0.0001      reward: 1.63
epis: 878    score: 1.0    mem len: 162340    epsilon: 0.8766    steps: 152    lr:
0.0001      reward: 1.64
epis: 879    score: 0.0    mem len: 162463    epsilon: 0.8763    steps: 123    lr:
0.0001      reward: 1.61
epis: 880    score: 0.0    mem len: 162586    epsilon: 0.8761    steps: 123    lr:
0.0001      reward: 1.6
epis: 881    score: 4.0    mem len: 162860    epsilon: 0.8755    steps: 274    lr:
```

```
0.0001      reward: 1.62
epis: 882    score: 1.0    mem len: 163030    epsilon: 0.8752    steps: 170    lr:
0.0001      reward: 1.62
epis: 883    score: 4.0    mem len: 163305    epsilon: 0.8747    steps: 275    lr:
0.0001      reward: 1.63
epis: 884    score: 3.0    mem len: 163531    epsilon: 0.8742    steps: 226    lr:
0.0001      reward: 1.63
epis: 885    score: 0.0    mem len: 163654    epsilon: 0.874     steps: 123    lr:
0.0001      reward: 1.59
epis: 886    score: 1.0    mem len: 163825    epsilon: 0.8736    steps: 171    lr:
0.0001      reward: 1.57
epis: 887    score: 1.0    mem len: 163994    epsilon: 0.8733    steps: 169    lr:
0.0001      reward: 1.58
epis: 888    score: 1.0    mem len: 164144    epsilon: 0.873     steps: 150    lr:
0.0001      reward: 1.59
epis: 889    score: 2.0    mem len: 164342    epsilon: 0.8726    steps: 198    lr:
0.0001      reward: 1.61
epis: 890    score: 4.0    mem len: 164635    epsilon: 0.872     steps: 293    lr:
0.0001      reward: 1.62
epis: 891    score: 1.0    mem len: 164786    epsilon: 0.8717    steps: 151    lr:
0.0001      reward: 1.55
epis: 892    score: 2.0    mem len: 164984    epsilon: 0.8713    steps: 198    lr:
0.0001      reward: 1.56
epis: 893    score: 1.0    mem len: 165153    epsilon: 0.871     steps: 169    lr:
0.0001      reward: 1.57
epis: 894    score: 1.0    mem len: 165304    epsilon: 0.8707    steps: 151    lr:
0.0001      reward: 1.55
epis: 895    score: 2.0    mem len: 165485    epsilon: 0.8703    steps: 181    lr:
0.0001      reward: 1.55
epis: 896    score: 3.0    mem len: 165750    epsilon: 0.8698    steps: 265    lr:
0.0001      reward: 1.57
epis: 897    score: 3.0    mem len: 165976    epsilon: 0.8694    steps: 226    lr:
0.0001      reward: 1.58
epis: 898    score: 6.0    mem len: 166330    epsilon: 0.8687    steps: 354    lr:
0.0001      reward: 1.63
epis: 899    score: 4.0    mem len: 166606    epsilon: 0.8681    steps: 276    lr:
0.0001      reward: 1.64
epis: 900    score: 2.0    mem len: 166808    epsilon: 0.8677    steps: 202    lr:
0.0001      reward: 1.66
epis: 901    score: 3.0    mem len: 167057    epsilon: 0.8672    steps: 249    lr:
0.0001      reward: 1.67
epis: 902    score: 3.0    mem len: 167285    epsilon: 0.8668    steps: 228    lr:
0.0001      reward: 1.68
epis: 903    score: 4.0    mem len: 167584    epsilon: 0.8662    steps: 299    lr:
0.0001      reward: 1.72
epis: 904    score: 3.0    mem len: 167852    epsilon: 0.8657    steps: 268    lr:
0.0001      reward: 1.74
epis: 905    score: 2.0    mem len: 168070    epsilon: 0.8652    steps: 218    lr:
```

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0.0001      reward: 1.76
epis: 906    score: 3.0    mem len: 168298    epsilon: 0.8648    steps: 228    lr:
0.0001      reward: 1.77
epis: 907    score: 2.0    mem len: 168498    epsilon: 0.8644    steps: 200    lr:
0.0001      reward: 1.79
epis: 908    score: 6.0    mem len: 168845    epsilon: 0.8637    steps: 347    lr:
0.0001      reward: 1.84
epis: 909    score: 3.0    mem len: 169057    epsilon: 0.8633    steps: 212    lr:
0.0001      reward: 1.87
epis: 910    score: 6.0    mem len: 169405    epsilon: 0.8626    steps: 348    lr:
0.0001      reward: 1.93
epis: 911    score: 2.0    mem len: 169603    epsilon: 0.8622    steps: 198    lr:
0.0001      reward: 1.95
epis: 912    score: 1.0    mem len: 169772    epsilon: 0.8618    steps: 169    lr:
0.0001      reward: 1.94
epis: 913    score: 1.0    mem len: 169940    epsilon: 0.8615    steps: 168    lr:
0.0001      reward: 1.93
epis: 914    score: 5.0    mem len: 170274    epsilon: 0.8609    steps: 334    lr:
0.0001      reward: 1.95
epis: 915    score: 0.0    mem len: 170397    epsilon: 0.8606    steps: 123    lr:
0.0001      reward: 1.91
epis: 916    score: 1.0    mem len: 170549    epsilon: 0.8603    steps: 152    lr:
0.0001      reward: 1.92
epis: 917    score: 1.0    mem len: 170718    epsilon: 0.86     steps: 169    lr:
0.0001      reward: 1.92
epis: 918    score: 4.0    mem len: 171014    epsilon: 0.8594    steps: 296    lr:
0.0001      reward: 1.94
epis: 919    score: 4.0    mem len: 171315    epsilon: 0.8588    steps: 301    lr:
0.0001      reward: 1.98
epis: 920    score: 0.0    mem len: 171438    epsilon: 0.8586    steps: 123    lr:
0.0001      reward: 1.98
epis: 921    score: 3.0    mem len: 171692    epsilon: 0.858    steps: 254    lr:
0.0001      reward: 2.0
epis: 922    score: 2.0    mem len: 171889    epsilon: 0.8577    steps: 197    lr:
0.0001      reward: 2.01
epis: 923    score: 3.0    mem len: 172140    epsilon: 0.8572    steps: 251    lr:
0.0001      reward: 2.03
epis: 924    score: 4.0    mem len: 172428    epsilon: 0.8566    steps: 288    lr:
0.0001      reward: 2.05
epis: 925    score: 0.0    mem len: 172551    epsilon: 0.8563    steps: 123    lr:
0.0001      reward: 2.03
epis: 926    score: 4.0    mem len: 172849    epsilon: 0.8558    steps: 298    lr:
0.0001      reward: 2.05
epis: 927    score: 1.0    mem len: 173018    epsilon: 0.8554    steps: 169    lr:
0.0001      reward: 2.03
epis: 928    score: 1.0    mem len: 173188    epsilon: 0.8551    steps: 170    lr:
0.0001      reward: 2.02
epis: 929    score: 1.0    mem len: 173339    epsilon: 0.8548    steps: 151    lr:
```

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0.0001      reward: 2.0
epis: 930    score: 2.0    mem len: 173521   epsilon: 0.8544    steps: 182    lr:
0.0001      reward: 2.02
epis: 931    score: 2.0    mem len: 173719   epsilon: 0.854    steps: 198    lr:
0.0001      reward: 2.04
epis: 932    score: 1.0    mem len: 173869   epsilon: 0.8537    steps: 150    lr:
0.0001      reward: 2.04
epis: 933    score: 2.0    mem len: 174067   epsilon: 0.8533    steps: 198    lr:
0.0001      reward: 2.06
epis: 934    score: 3.0    mem len: 174292   epsilon: 0.8529    steps: 225    lr:
0.0001      reward: 2.09
epis: 935    score: 3.0    mem len: 174517   epsilon: 0.8525    steps: 225    lr:
0.0001      reward: 2.11
epis: 936    score: 2.0    mem len: 174699   epsilon: 0.8521    steps: 182    lr:
0.0001      reward: 2.1
epis: 937    score: 3.0    mem len: 174946   epsilon: 0.8516    steps: 247    lr:
0.0001      reward: 2.1
epis: 938    score: 2.0    mem len: 175147   epsilon: 0.8512    steps: 201    lr:
0.0001      reward: 2.11
epis: 939    score: 3.0    mem len: 175391   epsilon: 0.8507    steps: 244    lr:
0.0001      reward: 2.13
epis: 940    score: 7.0    mem len: 175801   epsilon: 0.8499    steps: 410    lr:
0.0001      reward: 2.2
epis: 941    score: 5.0    mem len: 176114   epsilon: 0.8493    steps: 313    lr:
0.0001      reward: 2.21
epis: 942    score: 2.0    mem len: 176336   epsilon: 0.8489    steps: 222    lr:
0.0001      reward: 2.22
epis: 943    score: 0.0    mem len: 176459   epsilon: 0.8486    steps: 123    lr:
0.0001      reward: 2.21
epis: 944    score: 2.0    mem len: 176639   epsilon: 0.8483    steps: 180    lr:
0.0001      reward: 2.2
epis: 945    score: 3.0    mem len: 176883   epsilon: 0.8478    steps: 244    lr:
0.0001      reward: 2.21
epis: 946    score: 3.0    mem len: 177112   epsilon: 0.8473    steps: 229    lr:
0.0001      reward: 2.23
epis: 947    score: 2.0    mem len: 177328   epsilon: 0.8469    steps: 216    lr:
0.0001      reward: 2.23
epis: 948    score: 0.0    mem len: 177451   epsilon: 0.8466    steps: 123    lr:
0.0001      reward: 2.18
epis: 949    score: 2.0    mem len: 177651   epsilon: 0.8462    steps: 200    lr:
0.0001      reward: 2.18
epis: 950    score: 0.0    mem len: 177774   epsilon: 0.846    steps: 123    lr:
0.0001      reward: 2.16
epis: 951    score: 0.0    mem len: 177897   epsilon: 0.8458    steps: 123    lr:
0.0001      reward: 2.16
epis: 952    score: 0.0    mem len: 178019   epsilon: 0.8455    steps: 122    lr:
0.0001      reward: 2.13
epis: 953    score: 2.0    mem len: 178235   epsilon: 0.8451    steps: 216    lr:
```

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0.0001      reward: 2.12
epis: 954   score: 4.0   mem len: 178513   epsilon: 0.8445   steps: 278   lr:
0.0001      reward: 2.14
epis: 955   score: 3.0   mem len: 178742   epsilon: 0.8441   steps: 229   lr:
0.0001      reward: 2.15
epis: 956   score: 3.0   mem len: 179007   epsilon: 0.8436   steps: 265   lr:
0.0001      reward: 2.18
epis: 957   score: 1.0   mem len: 179176   epsilon: 0.8432   steps: 169   lr:
0.0001      reward: 2.19
epis: 958   score: 0.0   mem len: 179299   epsilon: 0.843    steps: 123   lr:
0.0001      reward: 2.19
epis: 959   score: 2.0   mem len: 179497   epsilon: 0.8426   steps: 198   lr:
0.0001      reward: 2.21
epis: 960   score: 4.0   mem len: 179795   epsilon: 0.842    steps: 298   lr:
0.0001      reward: 2.22
epis: 961   score: 2.0   mem len: 179995   epsilon: 0.8416   steps: 200   lr:
0.0001      reward: 2.22
epis: 962   score: 2.0   mem len: 180213   epsilon: 0.8412   steps: 218   lr:
0.0001      reward: 2.21
epis: 963   score: 3.0   mem len: 180479   epsilon: 0.8406   steps: 266   lr:
0.0001      reward: 2.21
epis: 964   score: 4.0   mem len: 180775   epsilon: 0.8401   steps: 296   lr:
0.0001      reward: 2.25
epis: 965   score: 4.0   mem len: 181070   epsilon: 0.8395   steps: 295   lr:
0.0001      reward: 2.28
epis: 966   score: 1.0   mem len: 181239   epsilon: 0.8391   steps: 169   lr:
0.0001      reward: 2.27
epis: 967   score: 2.0   mem len: 181454   epsilon: 0.8387   steps: 215   lr:
0.0001      reward: 2.26
epis: 968   score: 3.0   mem len: 181680   epsilon: 0.8383   steps: 226   lr:
0.0001      reward: 2.26
epis: 969   score: 1.0   mem len: 181851   epsilon: 0.8379   steps: 171   lr:
0.0001      reward: 2.24
epis: 970   score: 3.0   mem len: 182118   epsilon: 0.8374   steps: 267   lr:
0.0001      reward: 2.27
epis: 971   score: 4.0   mem len: 182376   epsilon: 0.8369   steps: 258   lr:
0.0001      reward: 2.27
epis: 972   score: 2.0   mem len: 182593   epsilon: 0.8365   steps: 217   lr:
0.0001      reward: 2.28
epis: 973   score: 1.0   mem len: 182764   epsilon: 0.8361   steps: 171   lr:
0.0001      reward: 2.27
epis: 974   score: 2.0   mem len: 182945   epsilon: 0.8358   steps: 181   lr:
0.0001      reward: 2.27
epis: 975   score: 1.0   mem len: 183116   epsilon: 0.8354   steps: 171   lr:
0.0001      reward: 2.25
epis: 976   score: 2.0   mem len: 183299   epsilon: 0.8351   steps: 183   lr:
0.0001      reward: 2.26
epis: 977   score: 0.0   mem len: 183421   epsilon: 0.8348   steps: 122   lr:
```

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0.0001     reward: 2.25
epis: 978   score: 2.0   mem len: 183639   epsilon: 0.8344   steps: 218   lr:
0.0001     reward: 2.26
epis: 979   score: 7.0   mem len: 184020   epsilon: 0.8336   steps: 381   lr:
0.0001     reward: 2.33
epis: 980   score: 4.0   mem len: 184329   epsilon: 0.833   steps: 309   lr:
0.0001     reward: 2.37
epis: 981   score: 2.0   mem len: 184510   epsilon: 0.8327   steps: 181   lr:
0.0001     reward: 2.35
epis: 982   score: 1.0   mem len: 184660   epsilon: 0.8324   steps: 150   lr:
0.0001     reward: 2.35
epis: 983   score: 7.0   mem len: 184981   epsilon: 0.8317   steps: 321   lr:
0.0001     reward: 2.38
epis: 984   score: 5.0   mem len: 185313   epsilon: 0.8311   steps: 332   lr:
0.0001     reward: 2.4
epis: 985   score: 4.0   mem len: 185588   epsilon: 0.8305   steps: 275   lr:
0.0001     reward: 2.44
epis: 986   score: 0.0   mem len: 185710   epsilon: 0.8303   steps: 122   lr:
0.0001     reward: 2.43
epis: 987   score: 4.0   mem len: 185986   epsilon: 0.8297   steps: 276   lr:
0.0001     reward: 2.46
epis: 988   score: 4.0   mem len: 186225   epsilon: 0.8293   steps: 239   lr:
0.0001     reward: 2.49
epis: 989   score: 0.0   mem len: 186348   epsilon: 0.829   steps: 123   lr:
0.0001     reward: 2.47
epis: 990   score: 4.0   mem len: 186641   epsilon: 0.8284   steps: 293   lr:
0.0001     reward: 2.47
epis: 991   score: 1.0   mem len: 186791   epsilon: 0.8282   steps: 150   lr:
0.0001     reward: 2.47
epis: 992   score: 0.0   mem len: 186914   epsilon: 0.8279   steps: 123   lr:
0.0001     reward: 2.45
epis: 993   score: 2.0   mem len: 187111   epsilon: 0.8275   steps: 197   lr:
0.0001     reward: 2.46
epis: 994   score: 2.0   mem len: 187333   epsilon: 0.8271   steps: 222   lr:
0.0001     reward: 2.47
epis: 995   score: 4.0   mem len: 187592   epsilon: 0.8266   steps: 259   lr:
0.0001     reward: 2.49
epis: 996   score: 0.0   mem len: 187715   epsilon: 0.8263   steps: 123   lr:
0.0001     reward: 2.46
epis: 997   score: 0.0   mem len: 187838   epsilon: 0.8261   steps: 123   lr:
0.0001     reward: 2.43
epis: 998   score: 0.0   mem len: 187961   epsilon: 0.8258   steps: 123   lr:
0.0001     reward: 2.37
epis: 999   score: 7.0   mem len: 188382   epsilon: 0.825   steps: 421   lr:
0.0001     reward: 2.4
epis: 1000   score: 2.0   mem len: 188581   epsilon: 0.8246   steps: 199   lr:
0.0001     reward: 2.4
epis: 1001   score: 2.0   mem len: 188781   epsilon: 0.8242   steps: 200   lr:
```

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0.0001     reward: 2.39
epis: 1002   score: 2.0   mem len: 188981   epsilon: 0.8238   steps: 200   lr:
0.0001     reward: 2.38
epis: 1003   score: 1.0   mem len: 189150   epsilon: 0.8235   steps: 169   lr:
0.0001     reward: 2.35
epis: 1004   score: 1.0   mem len: 189301   epsilon: 0.8232   steps: 151   lr:
0.0001     reward: 2.33
epis: 1005   score: 3.0   mem len: 189546   epsilon: 0.8227   steps: 245   lr:
0.0001     reward: 2.34
epis: 1006   score: 1.0   mem len: 189697   epsilon: 0.8224   steps: 151   lr:
0.0001     reward: 2.32
epis: 1007   score: 2.0   mem len: 189896   epsilon: 0.822   steps: 199   lr:
0.0001     reward: 2.32
epis: 1008   score: 3.0   mem len: 190125   epsilon: 0.8216   steps: 229   lr:
0.0001     reward: 2.29
epis: 1009   score: 5.0   mem len: 190451   epsilon: 0.8209   steps: 326   lr:
0.0001     reward: 2.31
epis: 1010   score: 3.0   mem len: 190696   epsilon: 0.8204   steps: 245   lr:
0.0001     reward: 2.28
epis: 1011   score: 5.0   mem len: 191022   epsilon: 0.8198   steps: 326   lr:
0.0001     reward: 2.31
epis: 1012   score: 3.0   mem len: 191269   epsilon: 0.8193   steps: 247   lr:
0.0001     reward: 2.33
epis: 1013   score: 2.0   mem len: 191487   epsilon: 0.8189   steps: 218   lr:
0.0001     reward: 2.34
epis: 1014   score: 4.0   mem len: 191783   epsilon: 0.8183   steps: 296   lr:
0.0001     reward: 2.33
epis: 1015   score: 2.0   mem len: 191983   epsilon: 0.8179   steps: 200   lr:
0.0001     reward: 2.35
epis: 1016   score: 1.0   mem len: 192153   epsilon: 0.8175   steps: 170   lr:
0.0001     reward: 2.35
epis: 1017   score: 1.0   mem len: 192321   epsilon: 0.8172   steps: 168   lr:
0.0001     reward: 2.35
epis: 1018   score: 4.0   mem len: 192631   epsilon: 0.8166   steps: 310   lr:
0.0001     reward: 2.35
epis: 1019   score: 4.0   mem len: 192947   epsilon: 0.816   steps: 316   lr:
0.0001     reward: 2.35
epis: 1020   score: 1.0   mem len: 193118   epsilon: 0.8156   steps: 171   lr:
0.0001     reward: 2.36
epis: 1021   score: 3.0   mem len: 193345   epsilon: 0.8152   steps: 227   lr:
0.0001     reward: 2.36
epis: 1022   score: 1.0   mem len: 193496   epsilon: 0.8149   steps: 151   lr:
0.0001     reward: 2.35
epis: 1023   score: 2.0   mem len: 193694   epsilon: 0.8145   steps: 198   lr:
0.0001     reward: 2.34
epis: 1024   score: 2.0   mem len: 193892   epsilon: 0.8141   steps: 198   lr:
0.0001     reward: 2.32
epis: 1025   score: 1.0   mem len: 194043   epsilon: 0.8138   steps: 151   lr:
```

```
0.0001      reward: 2.33
epis: 1026    score: 3.0    mem len: 194289    epsilon: 0.8133    steps: 246    lr:
0.0001      reward: 2.32
epis: 1027    score: 2.0    mem len: 194488    epsilon: 0.8129    steps: 199    lr:
0.0001      reward: 2.33
epis: 1028    score: 3.0    mem len: 194736    epsilon: 0.8124    steps: 248    lr:
0.0001      reward: 2.35
epis: 1029    score: 2.0    mem len: 194934    epsilon: 0.812     steps: 198    lr:
0.0001      reward: 2.36
epis: 1030    score: 2.0    mem len: 195131    epsilon: 0.8116    steps: 197    lr:
0.0001      reward: 2.36
epis: 1031    score: 5.0    mem len: 195455    epsilon: 0.811     steps: 324    lr:
0.0001      reward: 2.39
epis: 1032    score: 6.0    mem len: 195839    epsilon: 0.8102    steps: 384    lr:
0.0001      reward: 2.44
epis: 1033    score: 1.0    mem len: 196008    epsilon: 0.8099    steps: 169    lr:
0.0001      reward: 2.43
epis: 1034    score: 0.0    mem len: 196131    epsilon: 0.8097    steps: 123    lr:
0.0001      reward: 2.4
epis: 1035    score: 2.0    mem len: 196331    epsilon: 0.8093    steps: 200    lr:
0.0001      reward: 2.39
epis: 1036    score: 2.0    mem len: 196529    epsilon: 0.8089    steps: 198    lr:
0.0001      reward: 2.39
epis: 1037    score: 1.0    mem len: 196698    epsilon: 0.8085    steps: 169    lr:
0.0001      reward: 2.37
epis: 1038    score: 1.0    mem len: 196867    epsilon: 0.8082    steps: 169    lr:
0.0001      reward: 2.36
epis: 1039    score: 4.0    mem len: 197162    epsilon: 0.8076    steps: 295    lr:
0.0001      reward: 2.37
epis: 1040    score: 0.0    mem len: 197285    epsilon: 0.8074    steps: 123    lr:
0.0001      reward: 2.3
epis: 1041    score: 1.0    mem len: 197456    epsilon: 0.807     steps: 171    lr:
0.0001      reward: 2.26
epis: 1042    score: 1.0    mem len: 197606    epsilon: 0.8067    steps: 150    lr:
0.0001      reward: 2.25
epis: 1043    score: 0.0    mem len: 197729    epsilon: 0.8065    steps: 123    lr:
0.0001      reward: 2.25
epis: 1044    score: 4.0    mem len: 198024    epsilon: 0.8059    steps: 295    lr:
0.0001      reward: 2.27
epis: 1045    score: 2.0    mem len: 198206    epsilon: 0.8056    steps: 182    lr:
0.0001      reward: 2.26
epis: 1046    score: 2.0    mem len: 198423    epsilon: 0.8051    steps: 217    lr:
0.0001      reward: 2.25
epis: 1047    score: 4.0    mem len: 198699    epsilon: 0.8046    steps: 276    lr:
0.0001      reward: 2.27
epis: 1048    score: 2.0    mem len: 198900    epsilon: 0.8042    steps: 201    lr:
0.0001      reward: 2.29
epis: 1049    score: 2.0    mem len: 199119    epsilon: 0.8037    steps: 219    lr:
```

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0.0001    reward: 2.29
epis: 1050   score: 4.0   mem len: 199436   epsilon: 0.8031   steps: 317   lr:
0.0001    reward: 2.33
epis: 1051   score: 1.0   mem len: 199607   epsilon: 0.8028   steps: 171   lr:
0.0001    reward: 2.34
epis: 1052   score: 2.0   mem len: 199822   epsilon: 0.8024   steps: 215   lr:
0.0001    reward: 2.36
epis: 1053   score: 2.0   mem len: 200004   epsilon: 0.802   steps: 182   lr:
4e-05    reward: 2.36
epis: 1054   score: 1.0   mem len: 200174   epsilon: 0.8017   steps: 170   lr:
4e-05    reward: 2.33
epis: 1055   score: 4.0   mem len: 200414   epsilon: 0.8012   steps: 240   lr:
4e-05    reward: 2.34
epis: 1056   score: 4.0   mem len: 200713   epsilon: 0.8006   steps: 299   lr:
4e-05    reward: 2.35
epis: 1057   score: 2.0   mem len: 200932   epsilon: 0.8002   steps: 219   lr:
4e-05    reward: 2.36
epis: 1058   score: 4.0   mem len: 201230   epsilon: 0.7996   steps: 298   lr:
4e-05    reward: 2.4
epis: 1059   score: 1.0   mem len: 201380   epsilon: 0.7993   steps: 150   lr:
4e-05    reward: 2.39
epis: 1060   score: 7.0   mem len: 201767   epsilon: 0.7985   steps: 387   lr:
4e-05    reward: 2.42
epis: 1061   score: 4.0   mem len: 202060   epsilon: 0.7979   steps: 293   lr:
4e-05    reward: 2.44
epis: 1062   score: 1.0   mem len: 202228   epsilon: 0.7976   steps: 168   lr:
4e-05    reward: 2.43
epis: 1063   score: 2.0   mem len: 202426   epsilon: 0.7972   steps: 198   lr:
4e-05    reward: 2.42
epis: 1064   score: 3.0   mem len: 202656   epsilon: 0.7967   steps: 230   lr:
4e-05    reward: 2.41
epis: 1065   score: 1.0   mem len: 202825   epsilon: 0.7964   steps: 169   lr:
4e-05    reward: 2.38
epis: 1066   score: 1.0   mem len: 202996   epsilon: 0.7961   steps: 171   lr:
4e-05    reward: 2.38
epis: 1067   score: 9.0   mem len: 203324   epsilon: 0.7954   steps: 328   lr:
4e-05    reward: 2.45
epis: 1068   score: 2.0   mem len: 203521   epsilon: 0.795   steps: 197   lr:
4e-05    reward: 2.44
epis: 1069   score: 6.0   mem len: 203880   epsilon: 0.7943   steps: 359   lr:
4e-05    reward: 2.49
epis: 1070   score: 3.0   mem len: 204147   epsilon: 0.7938   steps: 267   lr:
4e-05    reward: 2.49
epis: 1071   score: 2.0   mem len: 204345   epsilon: 0.7934   steps: 198   lr:
4e-05    reward: 2.47
epis: 1072   score: 2.0   mem len: 204561   epsilon: 0.793   steps: 216   lr:
4e-05    reward: 2.47
epis: 1073   score: 1.0   mem len: 204712   epsilon: 0.7927   steps: 151   lr:
```

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4e-05     reward: 2.47
epis: 1074   score: 2.0   mem len: 204909   epsilon: 0.7923   steps: 197   lr:
4e-05     reward: 2.47
epis: 1075   score: 3.0   mem len: 205156   epsilon: 0.7918   steps: 247   lr:
4e-05     reward: 2.49
epis: 1076   score: 4.0   mem len: 205431   epsilon: 0.7912   steps: 275   lr:
4e-05     reward: 2.51
epis: 1077   score: 3.0   mem len: 205660   epsilon: 0.7908   steps: 229   lr:
4e-05     reward: 2.54
epis: 1078   score: 4.0   mem len: 205959   epsilon: 0.7902   steps: 299   lr:
4e-05     reward: 2.56
epis: 1079   score: 1.0   mem len: 206128   epsilon: 0.7899   steps: 169   lr:
4e-05     reward: 2.5
epis: 1080   score: 1.0   mem len: 206297   epsilon: 0.7895   steps: 169   lr:
4e-05     reward: 2.47
epis: 1081   score: 3.0   mem len: 206522   epsilon: 0.7891   steps: 225   lr:
4e-05     reward: 2.48
epis: 1082   score: 2.0   mem len: 206720   epsilon: 0.7887   steps: 198   lr:
4e-05     reward: 2.49
epis: 1083   score: 2.0   mem len: 206918   epsilon: 0.7883   steps: 198   lr:
4e-05     reward: 2.44
epis: 1084   score: 2.0   mem len: 207100   epsilon: 0.7879   steps: 182   lr:
4e-05     reward: 2.41
epis: 1085   score: 4.0   mem len: 207379   epsilon: 0.7874   steps: 279   lr:
4e-05     reward: 2.41
epis: 1086   score: 3.0   mem len: 207590   epsilon: 0.787   steps: 211   lr:
4e-05     reward: 2.44
epis: 1087   score: 2.0   mem len: 207787   epsilon: 0.7866   steps: 197   lr:
4e-05     reward: 2.42
epis: 1088   score: 3.0   mem len: 207997   epsilon: 0.7862   steps: 210   lr:
4e-05     reward: 2.41
epis: 1089   score: 1.0   mem len: 208165   epsilon: 0.7858   steps: 168   lr:
4e-05     reward: 2.42
epis: 1090   score: 7.0   mem len: 208559   epsilon: 0.7851   steps: 394   lr:
4e-05     reward: 2.45
epis: 1091   score: 1.0   mem len: 208709   epsilon: 0.7848   steps: 150   lr:
4e-05     reward: 2.45
epis: 1092   score: 2.0   mem len: 208927   epsilon: 0.7843   steps: 218   lr:
4e-05     reward: 2.47
epis: 1093   score: 2.0   mem len: 209108   epsilon: 0.784   steps: 181   lr:
4e-05     reward: 2.47
epis: 1094   score: 2.0   mem len: 209306   epsilon: 0.7836   steps: 198   lr:
4e-05     reward: 2.47
epis: 1095   score: 1.0   mem len: 209457   epsilon: 0.7833   steps: 151   lr:
4e-05     reward: 2.44
epis: 1096   score: 1.0   mem len: 209626   epsilon: 0.7829   steps: 169   lr:
4e-05     reward: 2.45
epis: 1097   score: 7.0   mem len: 210039   epsilon: 0.7821   steps: 413   lr:
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4e-05   reward: 2.52
epis: 1098   score: 1.0   mem len: 210209   epsilon: 0.7818   steps: 170   lr:
4e-05   reward: 2.53
epis: 1099   score: 3.0   mem len: 210439   epsilon: 0.7813   steps: 230   lr:
4e-05   reward: 2.49
epis: 1100   score: 3.0   mem len: 210684   epsilon: 0.7808   steps: 245   lr:
4e-05   reward: 2.5
epis: 1101   score: 1.0   mem len: 210852   epsilon: 0.7805   steps: 168   lr:
4e-05   reward: 2.49
epis: 1102   score: 3.0   mem len: 211100   epsilon: 0.78   steps: 248   lr:
4e-05   reward: 2.5
epis: 1103   score: 2.0   mem len: 211300   epsilon: 0.7796   steps: 200   lr:
4e-05   reward: 2.51
epis: 1104   score: 3.0   mem len: 211531   epsilon: 0.7792   steps: 231   lr:
4e-05   reward: 2.53
epis: 1105   score: 2.0   mem len: 211715   epsilon: 0.7788   steps: 184   lr:
4e-05   reward: 2.52
epis: 1106   score: 1.0   mem len: 211866   epsilon: 0.7785   steps: 151   lr:
4e-05   reward: 2.52
epis: 1107   score: 0.0   mem len: 211989   epsilon: 0.7783   steps: 123   lr:
4e-05   reward: 2.5
epis: 1108   score: 2.0   mem len: 212169   epsilon: 0.7779   steps: 180   lr:
4e-05   reward: 2.49
epis: 1109   score: 1.0   mem len: 212319   epsilon: 0.7776   steps: 150   lr:
4e-05   reward: 2.45
epis: 1110   score: 3.0   mem len: 212544   epsilon: 0.7772   steps: 225   lr:
4e-05   reward: 2.45
epis: 1111   score: 7.0   mem len: 212970   epsilon: 0.7763   steps: 426   lr:
4e-05   reward: 2.47
epis: 1112   score: 4.0   mem len: 213266   epsilon: 0.7757   steps: 296   lr:
4e-05   reward: 2.48
epis: 1113   score: 1.0   mem len: 213416   epsilon: 0.7754   steps: 150   lr:
4e-05   reward: 2.47
epis: 1114   score: 2.0   mem len: 213613   epsilon: 0.775   steps: 197   lr:
4e-05   reward: 2.45
epis: 1115   score: 9.0   mem len: 214058   epsilon: 0.7742   steps: 445   lr:
4e-05   reward: 2.52
epis: 1116   score: 2.0   mem len: 214239   epsilon: 0.7738   steps: 181   lr:
4e-05   reward: 2.53
epis: 1117   score: 2.0   mem len: 214437   epsilon: 0.7734   steps: 198   lr:
4e-05   reward: 2.54
epis: 1118   score: 2.0   mem len: 214654   epsilon: 0.773   steps: 217   lr:
4e-05   reward: 2.52
epis: 1119   score: 1.0   mem len: 214824   epsilon: 0.7726   steps: 170   lr:
4e-05   reward: 2.49
epis: 1120   score: 4.0   mem len: 215098   epsilon: 0.7721   steps: 274   lr:
4e-05   reward: 2.52
epis: 1121   score: 5.0   mem len: 215423   epsilon: 0.7715   steps: 325   lr:

4e-05   reward: 2.54
epis: 1122   score: 5.0   mem len: 215771   epsilon: 0.7708   steps: 348   lr:
4e-05   reward: 2.58
epis: 1123   score: 3.0   mem len: 216036   epsilon: 0.7702   steps: 265   lr:
4e-05   reward: 2.59
epis: 1124   score: 0.0   mem len: 216159   epsilon: 0.77   steps: 123   lr:
4e-05   reward: 2.57
epis: 1125   score: 1.0   mem len: 216309   epsilon: 0.7697   steps: 150   lr:
4e-05   reward: 2.57
epis: 1126   score: 3.0   mem len: 216553   epsilon: 0.7692   steps: 244   lr:
4e-05   reward: 2.57
epis: 1127   score: 3.0   mem len: 216799   epsilon: 0.7687   steps: 246   lr:
4e-05   reward: 2.58
epis: 1128   score: 3.0   mem len: 217026   epsilon: 0.7683   steps: 227   lr:
4e-05   reward: 2.58
epis: 1129   score: 5.0   mem len: 217373   epsilon: 0.7676   steps: 347   lr:
4e-05   reward: 2.61
epis: 1130   score: 4.0   mem len: 217647   epsilon: 0.7671   steps: 274   lr:
4e-05   reward: 2.63
epis: 1131   score: 1.0   mem len: 217818   epsilon: 0.7667   steps: 171   lr:
4e-05   reward: 2.59
epis: 1132   score: 1.0   mem len: 217968   epsilon: 0.7664   steps: 150   lr:
4e-05   reward: 2.54
epis: 1133   score: 3.0   mem len: 218194   epsilon: 0.766   steps: 226   lr:
4e-05   reward: 2.56
epis: 1134   score: 5.0   mem len: 218499   epsilon: 0.7654   steps: 305   lr:
4e-05   reward: 2.61
epis: 1135   score: 3.0   mem len: 218724   epsilon: 0.7649   steps: 225   lr:
4e-05   reward: 2.62
epis: 1136   score: 2.0   mem len: 218922   epsilon: 0.7645   steps: 198   lr:
4e-05   reward: 2.62
epis: 1137   score: 2.0   mem len: 219119   epsilon: 0.7641   steps: 197   lr:
4e-05   reward: 2.63
epis: 1138   score: 1.0   mem len: 219270   epsilon: 0.7638   steps: 151   lr:
4e-05   reward: 2.63
epis: 1139   score: 1.0   mem len: 219440   epsilon: 0.7635   steps: 170   lr:
4e-05   reward: 2.6
epis: 1140   score: 3.0   mem len: 219666   epsilon: 0.7631   steps: 226   lr:
4e-05   reward: 2.63
epis: 1141   score: 1.0   mem len: 219816   epsilon: 0.7628   steps: 150   lr:
4e-05   reward: 2.63
epis: 1142   score: 2.0   mem len: 220016   epsilon: 0.7624   steps: 200   lr:
4e-05   reward: 2.64
epis: 1143   score: 3.0   mem len: 220262   epsilon: 0.7619   steps: 246   lr:
4e-05   reward: 2.67
epis: 1144   score: 1.0   mem len: 220413   epsilon: 0.7616   steps: 151   lr:
4e-05   reward: 2.64
epis: 1145   score: 3.0   mem len: 220624   epsilon: 0.7612   steps: 211   lr:

4e-05   reward: 2.65
epis: 1146   score: 1.0   mem len: 220795   epsilon: 0.7608   steps: 171   lr:
4e-05   reward: 2.64
epis: 1147   score: 5.0   mem len: 221144   epsilon: 0.7601   steps: 349   lr:
4e-05   reward: 2.65
epis: 1148   score: 4.0   mem len: 221418   epsilon: 0.7596   steps: 274   lr:
4e-05   reward: 2.67
epis: 1149   score: 5.0   mem len: 221729   epsilon: 0.759   steps: 311   lr:
4e-05   reward: 2.7
epis: 1150   score: 5.0   mem len: 222055   epsilon: 0.7583   steps: 326   lr:
4e-05   reward: 2.71
epis: 1151   score: 1.0   mem len: 222227   epsilon: 0.758   steps: 172   lr:
4e-05   reward: 2.71
epis: 1152   score: 2.0   mem len: 222446   epsilon: 0.7576   steps: 219   lr:
4e-05   reward: 2.71
epis: 1153   score: 3.0   mem len: 222691   epsilon: 0.7571   steps: 245   lr:
4e-05   reward: 2.72
epis: 1154   score: 0.0   mem len: 222814   epsilon: 0.7568   steps: 123   lr:
4e-05   reward: 2.71
epis: 1155   score: 1.0   mem len: 222965   epsilon: 0.7565   steps: 151   lr:
4e-05   reward: 2.68
epis: 1156   score: 3.0   mem len: 223211   epsilon: 0.756   steps: 246   lr:
4e-05   reward: 2.67
epis: 1157   score: 2.0   mem len: 223426   epsilon: 0.7556   steps: 215   lr:
4e-05   reward: 2.67
epis: 1158   score: 5.0   mem len: 223749   epsilon: 0.755   steps: 323   lr:
4e-05   reward: 2.68
epis: 1159   score: 2.0   mem len: 223946   epsilon: 0.7546   steps: 197   lr:
4e-05   reward: 2.69
epis: 1160   score: 4.0   mem len: 224220   epsilon: 0.754   steps: 274   lr:
4e-05   reward: 2.66
epis: 1161   score: 5.0   mem len: 224545   epsilon: 0.7534   steps: 325   lr:
4e-05   reward: 2.67
epis: 1162   score: 7.0   mem len: 224926   epsilon: 0.7526   steps: 381   lr:
4e-05   reward: 2.73
epis: 1163   score: 3.0   mem len: 225192   epsilon: 0.7521   steps: 266   lr:
4e-05   reward: 2.74
epis: 1164   score: 7.0   mem len: 225600   epsilon: 0.7513   steps: 408   lr:
4e-05   reward: 2.78
epis: 1165   score: 4.0   mem len: 225877   epsilon: 0.7508   steps: 277   lr:
4e-05   reward: 2.81
epis: 1166   score: 5.0   mem len: 226240   epsilon: 0.75   steps: 363   lr:
4e-05   reward: 2.85
epis: 1167   score: 5.0   mem len: 226565   epsilon: 0.7494   steps: 325   lr:
4e-05   reward: 2.81
epis: 1168   score: 2.0   mem len: 226765   epsilon: 0.749   steps: 200   lr:
4e-05   reward: 2.81
epis: 1169   score: 2.0   mem len: 226982   epsilon: 0.7486   steps: 217   lr:

4e-05   reward: 2.77
epis: 1170   score: 2.0   mem len: 227180   epsilon: 0.7482   steps: 198   lr:
4e-05   reward: 2.76
epis: 1171   score: 3.0   mem len: 227410   epsilon: 0.7477   steps: 230   lr:
4e-05   reward: 2.77
epis: 1172   score: 4.0   mem len: 227653   epsilon: 0.7472   steps: 243   lr:
4e-05   reward: 2.79
epis: 1173   score: 4.0   mem len: 227927   epsilon: 0.7467   steps: 274   lr:
4e-05   reward: 2.82
epis: 1174   score: 2.0   mem len: 228126   epsilon: 0.7463   steps: 199   lr:
4e-05   reward: 2.82
epis: 1175   score: 5.0   mem len: 228472   epsilon: 0.7456   steps: 346   lr:
4e-05   reward: 2.84
epis: 1176   score: 3.0   mem len: 228716   epsilon: 0.7451   steps: 244   lr:
4e-05   reward: 2.83
epis: 1177   score: 4.0   mem len: 229012   epsilon: 0.7446   steps: 296   lr:
4e-05   reward: 2.84
epis: 1178   score: 5.0   mem len: 229354   epsilon: 0.7439   steps: 342   lr:
4e-05   reward: 2.85
epis: 1179   score: 4.0   mem len: 229630   epsilon: 0.7433   steps: 276   lr:
4e-05   reward: 2.88
epis: 1180   score: 3.0   mem len: 229856   epsilon: 0.7429   steps: 226   lr:
4e-05   reward: 2.9
epis: 1181   score: 4.0   mem len: 230154   epsilon: 0.7423   steps: 298   lr:
4e-05   reward: 2.91
epis: 1182   score: 3.0   mem len: 230400   epsilon: 0.7418   steps: 246   lr:
4e-05   reward: 2.92
epis: 1183   score: 6.0   mem len: 230793   epsilon: 0.741   steps: 393   lr:
4e-05   reward: 2.96
epis: 1184   score: 3.0   mem len: 231018   epsilon: 0.7406   steps: 225   lr:
4e-05   reward: 2.97
epis: 1185   score: 5.0   mem len: 231324   epsilon: 0.74   steps: 306   lr:
4e-05   reward: 2.98
epis: 1186   score: 1.0   mem len: 231494   epsilon: 0.7396   steps: 170   lr:
4e-05   reward: 2.96
epis: 1187   score: 3.0   mem len: 231759   epsilon: 0.7391   steps: 265   lr:
4e-05   reward: 2.97
epis: 1188   score: 2.0   mem len: 231956   epsilon: 0.7387   steps: 197   lr:
4e-05   reward: 2.96
epis: 1189   score: 5.0   mem len: 232283   epsilon: 0.7381   steps: 327   lr:
4e-05   reward: 3.0
epis: 1190   score: 4.0   mem len: 232538   epsilon: 0.7376   steps: 255   lr:
4e-05   reward: 2.97
epis: 1191   score: 3.0   mem len: 232766   epsilon: 0.7371   steps: 228   lr:
4e-05   reward: 2.99
epis: 1192   score: 2.0   mem len: 232981   epsilon: 0.7367   steps: 215   lr:
4e-05   reward: 2.99
epis: 1193   score: 0.0   mem len: 233103   epsilon: 0.7365   steps: 122   lr:

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4e-05     reward: 2.97
epis: 1194    score: 1.0    mem len: 233271    epsilon: 0.7361    steps: 168    lr:
4e-05     reward: 2.96
epis: 1195    score: 3.0    mem len: 233497    epsilon: 0.7357    steps: 226    lr:
4e-05     reward: 2.98
epis: 1196    score: 1.0    mem len: 233648    epsilon: 0.7354    steps: 151    lr:
4e-05     reward: 2.98
epis: 1197    score: 3.0    mem len: 233893    epsilon: 0.7349    steps: 245    lr:
4e-05     reward: 2.94
epis: 1198    score: 4.0    mem len: 234165    epsilon: 0.7344    steps: 272    lr:
4e-05     reward: 2.97
epis: 1199    score: 3.0    mem len: 234408    epsilon: 0.7339    steps: 243    lr:
4e-05     reward: 2.97
epis: 1200    score: 0.0    mem len: 234531    epsilon: 0.7336    steps: 123    lr:
4e-05     reward: 2.94
epis: 1201    score: 4.0    mem len: 234807    epsilon: 0.7331    steps: 276    lr:
4e-05     reward: 2.97
epis: 1202    score: 1.0    mem len: 234977    epsilon: 0.7327    steps: 170    lr:
4e-05     reward: 2.95
epis: 1203    score: 3.0    mem len: 235246    epsilon: 0.7322    steps: 269    lr:
4e-05     reward: 2.96
epis: 1204    score: 5.0    mem len: 235552    epsilon: 0.7316    steps: 306    lr:
4e-05     reward: 2.98
epis: 1205    score: 1.0    mem len: 235721    epsilon: 0.7313    steps: 169    lr:
4e-05     reward: 2.97
epis: 1206    score: 0.0    mem len: 235843    epsilon: 0.731    steps: 122    lr:
4e-05     reward: 2.96
epis: 1207    score: 1.0    mem len: 236014    epsilon: 0.7307    steps: 171    lr:
4e-05     reward: 2.97
epis: 1208    score: 2.0    mem len: 236231    epsilon: 0.7303    steps: 217    lr:
4e-05     reward: 2.97
epis: 1209    score: 2.0    mem len: 236428    epsilon: 0.7299    steps: 197    lr:
4e-05     reward: 2.98
epis: 1210    score: 8.0    mem len: 236899    epsilon: 0.7289    steps: 471    lr:
4e-05     reward: 3.03
epis: 1211    score: 4.0    mem len: 237176    epsilon: 0.7284    steps: 277    lr:
4e-05     reward: 3.0
epis: 1212    score: 5.0    mem len: 237472    epsilon: 0.7278    steps: 296    lr:
4e-05     reward: 3.01
epis: 1213    score: 3.0    mem len: 237717    epsilon: 0.7273    steps: 245    lr:
4e-05     reward: 3.03
epis: 1214    score: 4.0    mem len: 237973    epsilon: 0.7268    steps: 256    lr:
4e-05     reward: 3.05
epis: 1215    score: 1.0    mem len: 238144    epsilon: 0.7265    steps: 171    lr:
4e-05     reward: 2.97
epis: 1216    score: 4.0    mem len: 238419    epsilon: 0.7259    steps: 275    lr:
4e-05     reward: 2.99
epis: 1217    score: 3.0    mem len: 238684    epsilon: 0.7254    steps: 265    lr:
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4e-05   reward: 3.0
epis: 1218   score: 3.0   mem len: 238931   epsilon: 0.7249   steps: 247   lr:
4e-05   reward: 3.01
epis: 1219   score: 5.0   mem len: 239278   epsilon: 0.7242   steps: 347   lr:
4e-05   reward: 3.05
epis: 1220   score: 0.0   mem len: 239401   epsilon: 0.724   steps: 123   lr:
4e-05   reward: 3.01
epis: 1221   score: 3.0   mem len: 239627   epsilon: 0.7235   steps: 226   lr:
4e-05   reward: 2.99
epis: 1222   score: 3.0   mem len: 239872   epsilon: 0.7231   steps: 245   lr:
4e-05   reward: 2.97
epis: 1223   score: 8.0   mem len: 240203   epsilon: 0.7224   steps: 331   lr:
4e-05   reward: 3.02
epis: 1224   score: 2.0   mem len: 240421   epsilon: 0.722   steps: 218   lr:
4e-05   reward: 3.04
epis: 1225   score: 5.0   mem len: 240708   epsilon: 0.7214   steps: 287   lr:
4e-05   reward: 3.08
epis: 1226   score: 5.0   mem len: 240994   epsilon: 0.7208   steps: 286   lr:
4e-05   reward: 3.1
epis: 1227   score: 1.0   mem len: 241163   epsilon: 0.7205   steps: 169   lr:
4e-05   reward: 3.08
epis: 1228   score: 3.0   mem len: 241390   epsilon: 0.72   steps: 227   lr:
4e-05   reward: 3.08
epis: 1229   score: 3.0   mem len: 241615   epsilon: 0.7196   steps: 225   lr:
4e-05   reward: 3.06
epis: 1230   score: 3.0   mem len: 241828   epsilon: 0.7192   steps: 213   lr:
4e-05   reward: 3.05
epis: 1231   score: 2.0   mem len: 242025   epsilon: 0.7188   steps: 197   lr:
4e-05   reward: 3.06
epis: 1232   score: 1.0   mem len: 242176   epsilon: 0.7185   steps: 151   lr:
4e-05   reward: 3.06
epis: 1233   score: 4.0   mem len: 242452   epsilon: 0.7179   steps: 276   lr:
4e-05   reward: 3.07
epis: 1234   score: 2.0   mem len: 242671   epsilon: 0.7175   steps: 219   lr:
4e-05   reward: 3.04
epis: 1235   score: 3.0   mem len: 242899   epsilon: 0.7171   steps: 228   lr:
4e-05   reward: 3.04
epis: 1236   score: 6.0   mem len: 243272   epsilon: 0.7163   steps: 373   lr:
4e-05   reward: 3.08
epis: 1237   score: 6.0   mem len: 243616   epsilon: 0.7156   steps: 344   lr:
4e-05   reward: 3.12
epis: 1238   score: 5.0   mem len: 243923   epsilon: 0.715   steps: 307   lr:
4e-05   reward: 3.16
epis: 1239   score: 1.0   mem len: 244074   epsilon: 0.7147   steps: 151   lr:
4e-05   reward: 3.16
epis: 1240   score: 4.0   mem len: 244369   epsilon: 0.7141   steps: 295   lr:
4e-05   reward: 3.17
epis: 1241   score: 3.0   mem len: 244582   epsilon: 0.7137   steps: 213   lr:

4e-05   reward: 3.19
epis: 1242   score: 9.0   mem len: 244960   epsilon: 0.713   steps: 378   lr:
4e-05   reward: 3.26
epis: 1243   score: 3.0   mem len: 245206   epsilon: 0.7125   steps: 246   lr:
4e-05   reward: 3.26
epis: 1244   score: 2.0   mem len: 245427   epsilon: 0.7121   steps: 221   lr:
4e-05   reward: 3.27
epis: 1245   score: 3.0   mem len: 245673   epsilon: 0.7116   steps: 246   lr:
4e-05   reward: 3.27
epis: 1246   score: 6.0   mem len: 246030   epsilon: 0.7109   steps: 357   lr:
4e-05   reward: 3.32
epis: 1247   score: 6.0   mem len: 246349   epsilon: 0.7102   steps: 319   lr:
4e-05   reward: 3.33
epis: 1248   score: 0.0   mem len: 246472   epsilon: 0.71   steps: 123   lr:
4e-05   reward: 3.29
epis: 1249   score: 6.0   mem len: 246817   epsilon: 0.7093   steps: 345   lr:
4e-05   reward: 3.3
epis: 1250   score: 3.0   mem len: 247042   epsilon: 0.7089   steps: 225   lr:
4e-05   reward: 3.28
epis: 1251   score: 3.0   mem len: 247286   epsilon: 0.7084   steps: 244   lr:
4e-05   reward: 3.3
epis: 1252   score: 4.0   mem len: 247564   epsilon: 0.7078   steps: 278   lr:
4e-05   reward: 3.32
epis: 1253   score: 5.0   mem len: 247908   epsilon: 0.7071   steps: 344   lr:
4e-05   reward: 3.34
epis: 1254   score: 0.0   mem len: 248031   epsilon: 0.7069   steps: 123   lr:
4e-05   reward: 3.34
epis: 1255   score: 1.0   mem len: 248181   epsilon: 0.7066   steps: 150   lr:
4e-05   reward: 3.34
epis: 1256   score: 4.0   mem len: 248476   epsilon: 0.706   steps: 295   lr:
4e-05   reward: 3.35
epis: 1257   score: 0.0   mem len: 248598   epsilon: 0.7058   steps: 122   lr:
4e-05   reward: 3.33
epis: 1258   score: 1.0   mem len: 248768   epsilon: 0.7054   steps: 170   lr:
4e-05   reward: 3.29
epis: 1259   score: 3.0   mem len: 248993   epsilon: 0.705   steps: 225   lr:
4e-05   reward: 3.3
epis: 1260   score: 3.0   mem len: 249219   epsilon: 0.7045   steps: 226   lr:
4e-05   reward: 3.29
epis: 1261   score: 1.0   mem len: 249388   epsilon: 0.7042   steps: 169   lr:
4e-05   reward: 3.25
epis: 1262   score: 6.0   mem len: 249760   epsilon: 0.7035   steps: 372   lr:
4e-05   reward: 3.24
epis: 1263   score: 1.0   mem len: 249911   epsilon: 0.7032   steps: 151   lr:
4e-05   reward: 3.22
epis: 1264   score: 2.0   mem len: 250108   epsilon: 0.7028   steps: 197   lr:
4e-05   reward: 3.17
epis: 1265   score: 5.0   mem len: 250418   epsilon: 0.7022   steps: 310   lr:

4e-05   reward: 3.18
epis: 1266   score: 7.0   mem len: 250864   epsilon: 0.7013   steps: 446   lr:
4e-05   reward: 3.2
epis: 1267   score: 2.0   mem len: 251081   epsilon: 0.7009   steps: 217   lr:
4e-05   reward: 3.17
epis: 1268   score: 0.0   mem len: 251203   epsilon: 0.7006   steps: 122   lr:
4e-05   reward: 3.15
epis: 1269   score: 6.0   mem len: 251563   epsilon: 0.6999   steps: 360   lr:
4e-05   reward: 3.19
epis: 1270   score: 5.0   mem len: 251866   epsilon: 0.6993   steps: 303   lr:
4e-05   reward: 3.22
epis: 1271   score: 2.0   mem len: 252063   epsilon: 0.6989   steps: 197   lr:
4e-05   reward: 3.21
epis: 1272   score: 3.0   mem len: 252290   epsilon: 0.6985   steps: 227   lr:
4e-05   reward: 3.2
epis: 1273   score: 2.0   mem len: 252487   epsilon: 0.6981   steps: 197   lr:
4e-05   reward: 3.18
epis: 1274   score: 3.0   mem len: 252737   epsilon: 0.6976   steps: 250   lr:
4e-05   reward: 3.19
epis: 1275   score: 5.0   mem len: 253059   epsilon: 0.6969   steps: 322   lr:
4e-05   reward: 3.19
epis: 1276   score: 5.0   mem len: 253350   epsilon: 0.6964   steps: 291   lr:
4e-05   reward: 3.21
epis: 1277   score: 3.0   mem len: 253596   epsilon: 0.6959   steps: 246   lr:
4e-05   reward: 3.2
epis: 1278   score: 1.0   mem len: 253767   epsilon: 0.6955   steps: 171   lr:
4e-05   reward: 3.16
epis: 1279   score: 2.0   mem len: 253965   epsilon: 0.6951   steps: 198   lr:
4e-05   reward: 3.14
epis: 1280   score: 1.0   mem len: 254136   epsilon: 0.6948   steps: 171   lr:
4e-05   reward: 3.12
epis: 1281   score: 6.0   mem len: 254469   epsilon: 0.6941   steps: 333   lr:
4e-05   reward: 3.14
epis: 1282   score: 6.0   mem len: 254844   epsilon: 0.6934   steps: 375   lr:
4e-05   reward: 3.17
epis: 1283   score: 2.0   mem len: 255065   epsilon: 0.693   steps: 221   lr:
4e-05   reward: 3.13
epis: 1284   score: 4.0   mem len: 255362   epsilon: 0.6924   steps: 297   lr:
4e-05   reward: 3.14
epis: 1285   score: 1.0   mem len: 255532   epsilon: 0.692   steps: 170   lr:
4e-05   reward: 3.1
epis: 1286   score: 2.0   mem len: 255751   epsilon: 0.6916   steps: 219   lr:
4e-05   reward: 3.11
epis: 1287   score: 3.0   mem len: 255976   epsilon: 0.6912   steps: 225   lr:
4e-05   reward: 3.11
epis: 1288   score: 4.0   mem len: 256271   epsilon: 0.6906   steps: 295   lr:
4e-05   reward: 3.13
epis: 1289   score: 2.0   mem len: 256469   epsilon: 0.6902   steps: 198   lr:

4e-05   reward: 3.1
epis: 1290   score: 7.0   mem len: 256856   epsilon: 0.6894   steps: 387   lr:
4e-05   reward: 3.13
epis: 1291   score: 3.0   mem len: 257123   epsilon: 0.6889   steps: 267   lr:
4e-05   reward: 3.13
epis: 1292   score: 3.0   mem len: 257349   epsilon: 0.6884   steps: 226   lr:
4e-05   reward: 3.14
epis: 1293   score: 3.0   mem len: 257614   epsilon: 0.6879   steps: 265   lr:
4e-05   reward: 3.17
epis: 1294   score: 3.0   mem len: 257839   epsilon: 0.6875   steps: 225   lr:
4e-05   reward: 3.19
epis: 1295   score: 3.0   mem len: 258064   epsilon: 0.687   steps: 225   lr:
4e-05   reward: 3.19
epis: 1296   score: 4.0   mem len: 258339   epsilon: 0.6865   steps: 275   lr:
4e-05   reward: 3.22
epis: 1297   score: 6.0   mem len: 258711   epsilon: 0.6858   steps: 372   lr:
4e-05   reward: 3.25
epis: 1298   score: 0.0   mem len: 258833   epsilon: 0.6855   steps: 122   lr:
4e-05   reward: 3.21
epis: 1299   score: 4.0   mem len: 259127   epsilon: 0.6849   steps: 294   lr:
4e-05   reward: 3.22
epis: 1300   score: 4.0   mem len: 259407   epsilon: 0.6844   steps: 280   lr:
4e-05   reward: 3.26
epis: 1301   score: 4.0   mem len: 259682   epsilon: 0.6838   steps: 275   lr:
4e-05   reward: 3.26
epis: 1302   score: 1.0   mem len: 259833   epsilon: 0.6835   steps: 151   lr:
4e-05   reward: 3.26
epis: 1303   score: 1.0   mem len: 259984   epsilon: 0.6832   steps: 151   lr:
4e-05   reward: 3.24
epis: 1304   score: 0.0   mem len: 260107   epsilon: 0.683   steps: 123   lr:
4e-05   reward: 3.19
epis: 1305   score: 0.0   mem len: 260229   epsilon: 0.6827   steps: 122   lr:
4e-05   reward: 3.18
epis: 1306   score: 1.0   mem len: 260398   epsilon: 0.6824   steps: 169   lr:
4e-05   reward: 3.19
epis: 1307   score: 3.0   mem len: 260648   epsilon: 0.6819   steps: 250   lr:
4e-05   reward: 3.21
epis: 1308   score: 5.0   mem len: 260952   epsilon: 0.6813   steps: 304   lr:
4e-05   reward: 3.24
epis: 1309   score: 2.0   mem len: 261169   epsilon: 0.6809   steps: 217   lr:
4e-05   reward: 3.24
epis: 1310   score: 2.0   mem len: 261388   epsilon: 0.6804   steps: 219   lr:
4e-05   reward: 3.18
epis: 1311   score: 3.0   mem len: 261613   epsilon: 0.68   steps: 225   lr:
4e-05   reward: 3.17
epis: 1312   score: 2.0   mem len: 261811   epsilon: 0.6796   steps: 198   lr:
4e-05   reward: 3.14
epis: 1313   score: 4.0   mem len: 262065   epsilon: 0.6791   steps: 254   lr:

4e-05   reward: 3.15
epis: 1314   score: 4.0   mem len: 262322   epsilon: 0.6786   steps: 257   lr:
4e-05   reward: 3.15
epis: 1315   score: 0.0   mem len: 262444   epsilon: 0.6784   steps: 122   lr:
4e-05   reward: 3.14
epis: 1316   score: 3.0   mem len: 262669   epsilon: 0.6779   steps: 225   lr:
4e-05   reward: 3.13
epis: 1317   score: 5.0   mem len: 262984   epsilon: 0.6773   steps: 315   lr:
4e-05   reward: 3.15
epis: 1318   score: 1.0   mem len: 263156   epsilon: 0.6769   steps: 172   lr:
4e-05   reward: 3.13
epis: 1319   score: 1.0   mem len: 263327   epsilon: 0.6766   steps: 171   lr:
4e-05   reward: 3.09
epis: 1320   score: 4.0   mem len: 263622   epsilon: 0.676   steps: 295   lr:
4e-05   reward: 3.13
epis: 1321   score: 0.0   mem len: 263744   epsilon: 0.6758   steps: 122   lr:
4e-05   reward: 3.1
epis: 1322   score: 3.0   mem len: 263994   epsilon: 0.6753   steps: 250   lr:
4e-05   reward: 3.1
epis: 1323   score: 2.0   mem len: 264194   epsilon: 0.6749   steps: 200   lr:
4e-05   reward: 3.04
epis: 1324   score: 3.0   mem len: 264442   epsilon: 0.6744   steps: 248   lr:
4e-05   reward: 3.05
epis: 1325   score: 8.0   mem len: 264894   epsilon: 0.6735   steps: 452   lr:
4e-05   reward: 3.08
epis: 1326   score: 3.0   mem len: 265121   epsilon: 0.6731   steps: 227   lr:
4e-05   reward: 3.06
epis: 1327   score: 0.0   mem len: 265243   epsilon: 0.6728   steps: 122   lr:
4e-05   reward: 3.05
epis: 1328   score: 1.0   mem len: 265394   epsilon: 0.6725   steps: 151   lr:
4e-05   reward: 3.03
epis: 1329   score: 2.0   mem len: 265593   epsilon: 0.6721   steps: 199   lr:
4e-05   reward: 3.02
epis: 1330   score: 3.0   mem len: 265845   epsilon: 0.6716   steps: 252   lr:
4e-05   reward: 3.02
epis: 1331   score: 4.0   mem len: 266101   epsilon: 0.6711   steps: 256   lr:
4e-05   reward: 3.04
epis: 1332   score: 5.0   mem len: 266408   epsilon: 0.6705   steps: 307   lr:
4e-05   reward: 3.08
epis: 1333   score: 3.0   mem len: 266657   epsilon: 0.67   steps: 249   lr:
4e-05   reward: 3.07
epis: 1334   score: 4.0   mem len: 266953   epsilon: 0.6694   steps: 296   lr:
4e-05   reward: 3.09
epis: 1335   score: 3.0   mem len: 267162   epsilon: 0.669   steps: 209   lr:
4e-05   reward: 3.09
epis: 1336   score: 2.0   mem len: 267380   epsilon: 0.6686   steps: 218   lr:
4e-05   reward: 3.05
epis: 1337   score: 2.0   mem len: 267577   epsilon: 0.6682   steps: 197   lr:

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4e-05     reward: 3.01
epis: 1338   score: 3.0   mem len: 267790   epsilon: 0.6678   steps: 213   lr:
4e-05     reward: 2.99
epis: 1339   score: 5.0   mem len: 268126   epsilon: 0.6671   steps: 336   lr:
4e-05     reward: 3.03
epis: 1340   score: 3.0   mem len: 268371   epsilon: 0.6666   steps: 245   lr:
4e-05     reward: 3.02
epis: 1341   score: 4.0   mem len: 268667   epsilon: 0.666   steps: 296   lr:
4e-05     reward: 3.03
epis: 1342   score: 4.0   mem len: 268965   epsilon: 0.6654   steps: 298   lr:
4e-05     reward: 2.98
epis: 1343   score: 3.0   mem len: 269211   epsilon: 0.665   steps: 246   lr:
4e-05     reward: 2.98
epis: 1344   score: 2.0   mem len: 269434   epsilon: 0.6645   steps: 223   lr:
4e-05     reward: 2.98
epis: 1345   score: 5.0   mem len: 269782   epsilon: 0.6638   steps: 348   lr:
4e-05     reward: 3.0
epis: 1346   score: 3.0   mem len: 270007   epsilon: 0.6634   steps: 225   lr:
4e-05     reward: 2.97
epis: 1347   score: 2.0   mem len: 270207   epsilon: 0.663   steps: 200   lr:
4e-05     reward: 2.93
epis: 1348   score: 6.0   mem len: 270563   epsilon: 0.6623   steps: 356   lr:
4e-05     reward: 2.99
epis: 1349   score: 3.0   mem len: 270789   epsilon: 0.6618   steps: 226   lr:
4e-05     reward: 2.96
epis: 1350   score: 3.0   mem len: 271033   epsilon: 0.6614   steps: 244   lr:
4e-05     reward: 2.96
epis: 1351   score: 4.0   mem len: 271324   epsilon: 0.6608   steps: 291   lr:
4e-05     reward: 2.97
epis: 1352   score: 2.0   mem len: 271508   epsilon: 0.6604   steps: 184   lr:
4e-05     reward: 2.95
epis: 1353   score: 3.0   mem len: 271755   epsilon: 0.6599   steps: 247   lr:
4e-05     reward: 2.93
epis: 1354   score: 4.0   mem len: 272050   epsilon: 0.6593   steps: 295   lr:
4e-05     reward: 2.97
epis: 1355   score: 3.0   mem len: 272296   epsilon: 0.6589   steps: 246   lr:
4e-05     reward: 2.99
epis: 1356   score: 0.0   mem len: 272419   epsilon: 0.6586   steps: 123   lr:
4e-05     reward: 2.95
epis: 1357   score: 1.0   mem len: 272569   epsilon: 0.6583   steps: 150   lr:
4e-05     reward: 2.96
epis: 1358   score: 2.0   mem len: 272785   epsilon: 0.6579   steps: 216   lr:
4e-05     reward: 2.97
epis: 1359   score: 3.0   mem len: 273030   epsilon: 0.6574   steps: 245   lr:
4e-05     reward: 2.97
epis: 1360   score: 6.0   mem len: 273381   epsilon: 0.6567   steps: 351   lr:
4e-05     reward: 3.0
epis: 1361   score: 3.0   mem len: 273611   epsilon: 0.6562   steps: 230   lr:
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4e-05    reward: 3.02
epis: 1362   score: 1.0   mem len: 273782   epsilon: 0.6559   steps: 171   lr:
4e-05    reward: 2.97
epis: 1363   score: 2.0   mem len: 273998   epsilon: 0.6555   steps: 216   lr:
4e-05    reward: 2.98
epis: 1364   score: 6.0   mem len: 274352   epsilon: 0.6548   steps: 354   lr:
4e-05    reward: 3.02
epis: 1365   score: 4.0   mem len: 274649   epsilon: 0.6542   steps: 297   lr:
4e-05    reward: 3.01
epis: 1366   score: 4.0   mem len: 274942   epsilon: 0.6536   steps: 293   lr:
4e-05    reward: 2.98
epis: 1367   score: 3.0   mem len: 275190   epsilon: 0.6531   steps: 248   lr:
4e-05    reward: 2.99
epis: 1368   score: 2.0   mem len: 275388   epsilon: 0.6527   steps: 198   lr:
4e-05    reward: 3.01
epis: 1369   score: 6.0   mem len: 275724   epsilon: 0.6521   steps: 336   lr:
4e-05    reward: 3.01
epis: 1370   score: 1.0   mem len: 275875   epsilon: 0.6518   steps: 151   lr:
4e-05    reward: 2.97
epis: 1371   score: 2.0   mem len: 276073   epsilon: 0.6514   steps: 198   lr:
4e-05    reward: 2.97
epis: 1372   score: 2.0   mem len: 276270   epsilon: 0.651   steps: 197   lr:
4e-05    reward: 2.96
epis: 1373   score: 3.0   mem len: 276496   epsilon: 0.6505   steps: 226   lr:
4e-05    reward: 2.97
epis: 1374   score: 3.0   mem len: 276762   epsilon: 0.65   steps: 266   lr:
4e-05    reward: 2.97
epis: 1375   score: 4.0   mem len: 277076   epsilon: 0.6494   steps: 314   lr:
4e-05    reward: 2.96
epis: 1376   score: 2.0   mem len: 277294   epsilon: 0.649   steps: 218   lr:
4e-05    reward: 2.93
epis: 1377   score: 4.0   mem len: 277568   epsilon: 0.6484   steps: 274   lr:
4e-05    reward: 2.94
epis: 1378   score: 4.0   mem len: 277863   epsilon: 0.6478   steps: 295   lr:
4e-05    reward: 2.97
epis: 1379   score: 4.0   mem len: 278159   epsilon: 0.6472   steps: 296   lr:
4e-05    reward: 2.99
epis: 1380   score: 2.0   mem len: 278359   epsilon: 0.6468   steps: 200   lr:
4e-05    reward: 3.0
epis: 1381   score: 2.0   mem len: 278579   epsilon: 0.6464   steps: 220   lr:
4e-05    reward: 2.96
epis: 1382   score: 1.0   mem len: 278749   epsilon: 0.6461   steps: 170   lr:
4e-05    reward: 2.91
epis: 1383   score: 5.0   mem len: 279075   epsilon: 0.6454   steps: 326   lr:
4e-05    reward: 2.94
epis: 1384   score: 3.0   mem len: 279301   epsilon: 0.645   steps: 226   lr:
4e-05    reward: 2.93
epis: 1385   score: 5.0   mem len: 279630   epsilon: 0.6443   steps: 329   lr:
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4e-05     reward: 2.97
epis: 1386   score: 3.0   mem len: 279845   epsilon: 0.6439   steps: 215   lr:
4e-05     reward: 2.98
epis: 1387   score: 4.0   mem len: 280120   epsilon: 0.6434   steps: 275   lr:
4e-05     reward: 2.99
epis: 1388   score: 3.0   mem len: 280365   epsilon: 0.6429   steps: 245   lr:
4e-05     reward: 2.98
epis: 1389   score: 4.0   mem len: 280646   epsilon: 0.6423   steps: 281   lr:
4e-05     reward: 3.0
epis: 1390   score: 1.0   mem len: 280797   epsilon: 0.642   steps: 151   lr:
4e-05     reward: 2.94
epis: 1391   score: 7.0   mem len: 281178   epsilon: 0.6413   steps: 381   lr:
4e-05     reward: 2.98
epis: 1392   score: 8.0   mem len: 281650   epsilon: 0.6403   steps: 472   lr:
4e-05     reward: 3.03
epis: 1393   score: 2.0   mem len: 281871   epsilon: 0.6399   steps: 221   lr:
4e-05     reward: 3.02
epis: 1394   score: 2.0   mem len: 282069   epsilon: 0.6395   steps: 198   lr:
4e-05     reward: 3.01
epis: 1395   score: 1.0   mem len: 282220   epsilon: 0.6392   steps: 151   lr:
4e-05     reward: 2.99
epis: 1396   score: 3.0   mem len: 282448   epsilon: 0.6388   steps: 228   lr:
4e-05     reward: 2.98
epis: 1397   score: 5.0   mem len: 282762   epsilon: 0.6381   steps: 314   lr:
4e-05     reward: 2.97
epis: 1398   score: 6.0   mem len: 283135   epsilon: 0.6374   steps: 373   lr:
4e-05     reward: 3.03
epis: 1399   score: 4.0   mem len: 283412   epsilon: 0.6368   steps: 277   lr:
4e-05     reward: 3.03
epis: 1400   score: 3.0   mem len: 283637   epsilon: 0.6364   steps: 225   lr:
4e-05     reward: 3.02
epis: 1401   score: 5.0   mem len: 283948   epsilon: 0.6358   steps: 311   lr:
4e-05     reward: 3.03
epis: 1402   score: 4.0   mem len: 284263   epsilon: 0.6352   steps: 315   lr:
4e-05     reward: 3.06
epis: 1403   score: 6.0   mem len: 284637   epsilon: 0.6344   steps: 374   lr:
4e-05     reward: 3.11
epis: 1404   score: 3.0   mem len: 284865   epsilon: 0.634   steps: 228   lr:
4e-05     reward: 3.14
epis: 1405   score: 7.0   mem len: 285247   epsilon: 0.6332   steps: 382   lr:
4e-05     reward: 3.21
epis: 1406   score: 4.0   mem len: 285523   epsilon: 0.6327   steps: 276   lr:
4e-05     reward: 3.24
epis: 1407   score: 2.0   mem len: 285720   epsilon: 0.6323   steps: 197   lr:
4e-05     reward: 3.23
epis: 1408   score: 7.0   mem len: 286112   epsilon: 0.6315   steps: 392   lr:
4e-05     reward: 3.25
epis: 1409   score: 3.0   mem len: 286325   epsilon: 0.6311   steps: 213   lr:
```

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4e-05      reward: 3.26
epis: 1410    score: 3.0    mem len: 286551    epsilon: 0.6306    steps: 226    lr:
4e-05      reward: 3.27
epis: 1411    score: 2.0    mem len: 286751    epsilon: 0.6302    steps: 200    lr:
4e-05      reward: 3.26
epis: 1412    score: 6.0    mem len: 287103    epsilon: 0.6295    steps: 352    lr:
4e-05      reward: 3.3
epis: 1413    score: 5.0    mem len: 287410    epsilon: 0.6289    steps: 307    lr:
4e-05      reward: 3.31
epis: 1414    score: 3.0    mem len: 287623    epsilon: 0.6285    steps: 213    lr:
4e-05      reward: 3.3
epis: 1415    score: 5.0    mem len: 287934    epsilon: 0.6279    steps: 311    lr:
4e-05      reward: 3.35
epis: 1416    score: 2.0    mem len: 288132    epsilon: 0.6275    steps: 198    lr:
4e-05      reward: 3.34
epis: 1417    score: 7.0    mem len: 288562    epsilon: 0.6266    steps: 430    lr:
4e-05      reward: 3.36
epis: 1418    score: 5.0    mem len: 288921    epsilon: 0.6259    steps: 359    lr:
4e-05      reward: 3.4
epis: 1419    score: 3.0    mem len: 289146    epsilon: 0.6255    steps: 225    lr:
4e-05      reward: 3.42
epis: 1420    score: 6.0    mem len: 289490    epsilon: 0.6248    steps: 344    lr:
4e-05      reward: 3.44
epis: 1421    score: 3.0    mem len: 289716    epsilon: 0.6244    steps: 226    lr:
4e-05      reward: 3.47
epis: 1422    score: 2.0    mem len: 289914    epsilon: 0.624    steps: 198    lr:
4e-05      reward: 3.46
epis: 1423    score: 4.0    mem len: 290188    epsilon: 0.6234    steps: 274    lr:
4e-05      reward: 3.48
epis: 1424    score: 4.0    mem len: 290485    epsilon: 0.6228    steps: 297    lr:
4e-05      reward: 3.49
epis: 1425    score: 3.0    mem len: 290729    epsilon: 0.6224    steps: 244    lr:
4e-05      reward: 3.44
epis: 1426    score: 2.0    mem len: 290927    epsilon: 0.622    steps: 198    lr:
4e-05      reward: 3.43
epis: 1427    score: 4.0    mem len: 291206    epsilon: 0.6214    steps: 279    lr:
4e-05      reward: 3.47
epis: 1428    score: 4.0    mem len: 291465    epsilon: 0.6209    steps: 259    lr:
4e-05      reward: 3.5
epis: 1429    score: 3.0    mem len: 291712    epsilon: 0.6204    steps: 247    lr:
4e-05      reward: 3.51
epis: 1430    score: 5.0    mem len: 292022    epsilon: 0.6198    steps: 310    lr:
4e-05      reward: 3.53
epis: 1431    score: 8.0    mem len: 292512    epsilon: 0.6188    steps: 490    lr:
4e-05      reward: 3.57
epis: 1432    score: 5.0    mem len: 292855    epsilon: 0.6181    steps: 343    lr:
4e-05      reward: 3.57
epis: 1433    score: 1.0    mem len: 293005    epsilon: 0.6178    steps: 150    lr:
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4e-05   reward: 3.55
epis: 1434   score: 5.0   mem len: 293310   epsilon: 0.6172   steps: 305   lr:
4e-05   reward: 3.56
epis: 1435   score: 3.0   mem len: 293535   epsilon: 0.6168   steps: 225   lr:
4e-05   reward: 3.56
epis: 1436   score: 4.0   mem len: 293795   epsilon: 0.6163   steps: 260   lr:
4e-05   reward: 3.58
epis: 1437   score: 5.0   mem len: 294104   epsilon: 0.6157   steps: 309   lr:
4e-05   reward: 3.61
epis: 1438   score: 4.0   mem len: 294398   epsilon: 0.6151   steps: 294   lr:
4e-05   reward: 3.62
epis: 1439   score: 5.0   mem len: 294724   epsilon: 0.6144   steps: 326   lr:
4e-05   reward: 3.62
epis: 1440   score: 2.0   mem len: 294945   epsilon: 0.614   steps: 221   lr:
4e-05   reward: 3.61
epis: 1441   score: 4.0   mem len: 295243   epsilon: 0.6134   steps: 298   lr:
4e-05   reward: 3.61
epis: 1442   score: 3.0   mem len: 295488   epsilon: 0.6129   steps: 245   lr:
4e-05   reward: 3.6
epis: 1443   score: 3.0   mem len: 295714   epsilon: 0.6125   steps: 226   lr:
4e-05   reward: 3.6
epis: 1444   score: 3.0   mem len: 295960   epsilon: 0.612   steps: 246   lr:
4e-05   reward: 3.61
epis: 1445   score: 5.0   mem len: 296329   epsilon: 0.6113   steps: 369   lr:
4e-05   reward: 3.61
epis: 1446   score: 8.0   mem len: 296765   epsilon: 0.6104   steps: 436   lr:
4e-05   reward: 3.66
epis: 1447   score: 3.0   mem len: 296991   epsilon: 0.61   steps: 226   lr:
4e-05   reward: 3.67
epis: 1448   score: 2.0   mem len: 297188   epsilon: 0.6096   steps: 197   lr:
4e-05   reward: 3.63
epis: 1449   score: 6.0   mem len: 297541   epsilon: 0.6089   steps: 353   lr:
4e-05   reward: 3.66
epis: 1450   score: 2.0   mem len: 297722   epsilon: 0.6085   steps: 181   lr:
4e-05   reward: 3.65
epis: 1451   score: 2.0   mem len: 297920   epsilon: 0.6081   steps: 198   lr:
4e-05   reward: 3.63
epis: 1452   score: 1.0   mem len: 298091   epsilon: 0.6078   steps: 171   lr:
4e-05   reward: 3.62
epis: 1453   score: 3.0   mem len: 298337   epsilon: 0.6073   steps: 246   lr:
4e-05   reward: 3.62
epis: 1454   score: 3.0   mem len: 298549   epsilon: 0.6069   steps: 212   lr:
4e-05   reward: 3.61
epis: 1455   score: 3.0   mem len: 298792   epsilon: 0.6064   steps: 243   lr:
4e-05   reward: 3.61
epis: 1456   score: 4.0   mem len: 299066   epsilon: 0.6058   steps: 274   lr:
4e-05   reward: 3.65
epis: 1457   score: 7.0   mem len: 299431   epsilon: 0.6051   steps: 365   lr:

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4e-05      reward: 3.71
epis: 1458    score: 2.0    mem len: 299631    epsilon: 0.6047    steps: 200    lr:
4e-05      reward: 3.71
epis: 1459    score: 2.0    mem len: 299811    epsilon: 0.6044    steps: 180    lr:
4e-05      reward: 3.7
epis: 1460    score: 8.0    mem len: 300257    epsilon: 0.6035    steps: 446    lr:
1.6e-05      reward: 3.72
epis: 1461    score: 2.0    mem len: 300455    epsilon: 0.6031    steps: 198    lr:
1.6e-05      reward: 3.71
epis: 1462    score: 7.0    mem len: 300824    epsilon: 0.6024    steps: 369    lr:
1.6e-05      reward: 3.77
epis: 1463    score: 1.0    mem len: 300975    epsilon: 0.6021    steps: 151    lr:
1.6e-05      reward: 3.76
epis: 1464    score: 5.0    mem len: 301282    epsilon: 0.6015    steps: 307    lr:
1.6e-05      reward: 3.75
epis: 1465    score: 3.0    mem len: 301530    epsilon: 0.601    steps: 248    lr:
1.6e-05      reward: 3.74
epis: 1466    score: 3.0    mem len: 301778    epsilon: 0.6005    steps: 248    lr:
1.6e-05      reward: 3.73
epis: 1467    score: 2.0    mem len: 301975    epsilon: 0.6001    steps: 197    lr:
1.6e-05      reward: 3.72
epis: 1468    score: 8.0    mem len: 302464    epsilon: 0.5991    steps: 489    lr:
1.6e-05      reward: 3.78
epis: 1469    score: 3.0    mem len: 302717    epsilon: 0.5986    steps: 253    lr:
1.6e-05      reward: 3.75
epis: 1470    score: 4.0    mem len: 302995    epsilon: 0.5981    steps: 278    lr:
1.6e-05      reward: 3.78
epis: 1471    score: 10.0    mem len: 303539    epsilon: 0.597    steps: 544    lr:
1.6e-05      reward: 3.86
epis: 1472    score: 2.0    mem len: 303719    epsilon: 0.5966    steps: 180    lr:
1.6e-05      reward: 3.86
epis: 1473    score: 4.0    mem len: 303978    epsilon: 0.5961    steps: 259    lr:
1.6e-05      reward: 3.87
epis: 1474    score: 5.0    mem len: 304303    epsilon: 0.5955    steps: 325    lr:
1.6e-05      reward: 3.89
epis: 1475    score: 4.0    mem len: 304582    epsilon: 0.5949    steps: 279    lr:
1.6e-05      reward: 3.89
epis: 1476    score: 5.0    mem len: 304888    epsilon: 0.5943    steps: 306    lr:
1.6e-05      reward: 3.92
epis: 1477    score: 7.0    mem len: 305298    epsilon: 0.5935    steps: 410    lr:
1.6e-05      reward: 3.95
epis: 1478    score: 3.0    mem len: 305544    epsilon: 0.593    steps: 246    lr:
1.6e-05      reward: 3.94
epis: 1479    score: 3.0    mem len: 305788    epsilon: 0.5925    steps: 244    lr:
1.6e-05      reward: 3.93
epis: 1480    score: 5.0    mem len: 306075    epsilon: 0.592    steps: 287    lr:
1.6e-05      reward: 3.96
epis: 1481    score: 4.0    mem len: 306350    epsilon: 0.5914    steps: 275    lr:
```

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1.6e-05     reward: 3.98
epis: 1482   score: 3.0   mem len: 306578   epsilon: 0.591    steps: 228    lr:
1.6e-05     reward: 4.0
epis: 1483   score: 4.0   mem len: 306822   epsilon: 0.5905   steps: 244    lr:
1.6e-05     reward: 3.99
epis: 1484   score: 4.0   mem len: 307079   epsilon: 0.59    steps: 257    lr:
1.6e-05     reward: 4.0
epis: 1485   score: 3.0   mem len: 307307   epsilon: 0.5895   steps: 228    lr:
1.6e-05     reward: 3.98
epis: 1486   score: 4.0   mem len: 307601   epsilon: 0.5889   steps: 294    lr:
1.6e-05     reward: 3.99
epis: 1487   score: 3.0   mem len: 307810   epsilon: 0.5885   steps: 209    lr:
1.6e-05     reward: 3.98
epis: 1488   score: 4.0   mem len: 308126   epsilon: 0.5879   steps: 316    lr:
1.6e-05     reward: 3.99
epis: 1489   score: 3.0   mem len: 308352   epsilon: 0.5875   steps: 226    lr:
1.6e-05     reward: 3.98
epis: 1490   score: 2.0   mem len: 308549   epsilon: 0.5871   steps: 197    lr:
1.6e-05     reward: 3.99
epis: 1491   score: 8.0   mem len: 308955   epsilon: 0.5863   steps: 406    lr:
1.6e-05     reward: 4.0
epis: 1492   score: 5.0   mem len: 309281   epsilon: 0.5856   steps: 326    lr:
1.6e-05     reward: 3.97
epis: 1493   score: 4.0   mem len: 309557   epsilon: 0.5851   steps: 276    lr:
1.6e-05     reward: 3.99
epis: 1494   score: 6.0   mem len: 309891   epsilon: 0.5844   steps: 334    lr:
1.6e-05     reward: 4.03
epis: 1495   score: 7.0   mem len: 310272   epsilon: 0.5837   steps: 381    lr:
1.6e-05     reward: 4.09
epis: 1496   score: 6.0   mem len: 310628   epsilon: 0.583    steps: 356    lr:
1.6e-05     reward: 4.12
epis: 1497   score: 8.0   mem len: 311078   epsilon: 0.5821   steps: 450    lr:
1.6e-05     reward: 4.15
epis: 1498   score: 2.0   mem len: 311258   epsilon: 0.5817   steps: 180    lr:
1.6e-05     reward: 4.11
epis: 1499   score: 5.0   mem len: 311607   epsilon: 0.581    steps: 349    lr:
1.6e-05     reward: 4.12
epis: 1500   score: 8.0   mem len: 312034   epsilon: 0.5802   steps: 427    lr:
1.6e-05     reward: 4.17
epis: 1501   score: 4.0   mem len: 312308   epsilon: 0.5796   steps: 274    lr:
1.6e-05     reward: 4.16
epis: 1502   score: 5.0   mem len: 312650   epsilon: 0.579    steps: 342    lr:
1.6e-05     reward: 4.17
epis: 1503   score: 3.0   mem len: 312879   epsilon: 0.5785   steps: 229    lr:
1.6e-05     reward: 4.14
epis: 1504   score: 3.0   mem len: 313127   epsilon: 0.578    steps: 248    lr:
1.6e-05     reward: 4.14
epis: 1505   score: 7.0   mem len: 313514   epsilon: 0.5772   steps: 387    lr:
```

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1.6e-05     reward: 4.14
epis: 1506   score: 7.0   mem len: 313938   epsilon: 0.5764   steps: 424   lr:
1.6e-05     reward: 4.17
epis: 1507   score: 6.0   mem len: 314329   epsilon: 0.5756   steps: 391   lr:
1.6e-05     reward: 4.21
epis: 1508   score: 4.0   mem len: 314621   epsilon: 0.575   steps: 292   lr:
1.6e-05     reward: 4.18
epis: 1509   score: 2.0   mem len: 314801   epsilon: 0.5747   steps: 180   lr:
1.6e-05     reward: 4.17
epis: 1510   score: 3.0   mem len: 315030   epsilon: 0.5742   steps: 229   lr:
1.6e-05     reward: 4.17
epis: 1511   score: 1.0   mem len: 315199   epsilon: 0.5739   steps: 169   lr:
1.6e-05     reward: 4.16
epis: 1512   score: 3.0   mem len: 315425   epsilon: 0.5735   steps: 226   lr:
1.6e-05     reward: 4.13
epis: 1513   score: 5.0   mem len: 315766   epsilon: 0.5728   steps: 341   lr:
1.6e-05     reward: 4.13
epis: 1514   score: 6.0   mem len: 316104   epsilon: 0.5721   steps: 338   lr:
1.6e-05     reward: 4.16
epis: 1515   score: 6.0   mem len: 316479   epsilon: 0.5714   steps: 375   lr:
1.6e-05     reward: 4.17
epis: 1516   score: 6.0   mem len: 316836   epsilon: 0.5707   steps: 357   lr:
1.6e-05     reward: 4.21
epis: 1517   score: 5.0   mem len: 317146   epsilon: 0.57   steps: 310   lr:
1.6e-05     reward: 4.19
epis: 1518   score: 4.0   mem len: 317385   epsilon: 0.5696   steps: 239   lr:
1.6e-05     reward: 4.18
epis: 1519   score: 2.0   mem len: 317585   epsilon: 0.5692   steps: 200   lr:
1.6e-05     reward: 4.17
epis: 1520   score: 11.0   mem len: 318052   epsilon: 0.5683   steps: 467
lr: 1.6e-05     reward: 4.22
epis: 1521   score: 3.0   mem len: 318265   epsilon: 0.5678   steps: 213   lr:
1.6e-05     reward: 4.22
epis: 1522   score: 5.0   mem len: 318592   epsilon: 0.5672   steps: 327   lr:
1.6e-05     reward: 4.25
epis: 1523   score: 2.0   mem len: 318772   epsilon: 0.5668   steps: 180   lr:
1.6e-05     reward: 4.23
epis: 1524   score: 2.0   mem len: 318974   epsilon: 0.5664   steps: 202   lr:
1.6e-05     reward: 4.21
epis: 1525   score: 5.0   mem len: 319281   epsilon: 0.5658   steps: 307   lr:
1.6e-05     reward: 4.23
epis: 1526   score: 8.0   mem len: 319682   epsilon: 0.565   steps: 401   lr:
1.6e-05     reward: 4.29
epis: 1527   score: 3.0   mem len: 319927   epsilon: 0.5645   steps: 245   lr:
1.6e-05     reward: 4.28
epis: 1528   score: 6.0   mem len: 320266   epsilon: 0.5639   steps: 339   lr:
1.6e-05     reward: 4.3
epis: 1529   score: 3.0   mem len: 320512   epsilon: 0.5634   steps: 246   lr:
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1.6e-05     reward: 4.3
epis: 1530   score: 4.0   mem len: 320769   epsilon: 0.5629   steps: 257   lr:
1.6e-05     reward: 4.29
epis: 1531   score: 7.0   mem len: 321176   epsilon: 0.5621   steps: 407   lr:
1.6e-05     reward: 4.28
epis: 1532   score: 6.0   mem len: 321548   epsilon: 0.5613   steps: 372   lr:
1.6e-05     reward: 4.29
epis: 1533   score: 7.0   mem len: 321953   epsilon: 0.5605   steps: 405   lr:
1.6e-05     reward: 4.35
epis: 1534   score: 4.0   mem len: 322209   epsilon: 0.56    steps: 256   lr:
1.6e-05     reward: 4.34
epis: 1535   score: 3.0   mem len: 322434   epsilon: 0.5596   steps: 225   lr:
1.6e-05     reward: 4.34
epis: 1536   score: 4.0   mem len: 322729   epsilon: 0.559   steps: 295   lr:
1.6e-05     reward: 4.34
epis: 1537   score: 4.0   mem len: 323025   epsilon: 0.5584   steps: 296   lr:
1.6e-05     reward: 4.33
epis: 1538   score: 5.0   mem len: 323295   epsilon: 0.5579   steps: 270   lr:
1.6e-05     reward: 4.34
epis: 1539   score: 1.0   mem len: 323464   epsilon: 0.5575   steps: 169   lr:
1.6e-05     reward: 4.3
epis: 1540   score: 5.0   mem len: 323768   epsilon: 0.5569   steps: 304   lr:
1.6e-05     reward: 4.33
epis: 1541   score: 6.0   mem len: 324125   epsilon: 0.5562   steps: 357   lr:
1.6e-05     reward: 4.35
epis: 1542   score: 3.0   mem len: 324357   epsilon: 0.5558   steps: 232   lr:
1.6e-05     reward: 4.35
epis: 1543   score: 7.0   mem len: 324734   epsilon: 0.555   steps: 377   lr:
1.6e-05     reward: 4.39
epis: 1544   score: 3.0   mem len: 324943   epsilon: 0.5546   steps: 209   lr:
1.6e-05     reward: 4.39
epis: 1545   score: 6.0   mem len: 325322   epsilon: 0.5539   steps: 379   lr:
1.6e-05     reward: 4.4
epis: 1546   score: 4.0   mem len: 325599   epsilon: 0.5533   steps: 277   lr:
1.6e-05     reward: 4.36
epis: 1547   score: 4.0   mem len: 325876   epsilon: 0.5528   steps: 277   lr:
1.6e-05     reward: 4.37
epis: 1548   score: 6.0   mem len: 326247   epsilon: 0.552   steps: 371   lr:
1.6e-05     reward: 4.41
epis: 1549   score: 7.0   mem len: 326633   epsilon: 0.5513   steps: 386   lr:
1.6e-05     reward: 4.42
epis: 1550   score: 4.0   mem len: 326931   epsilon: 0.5507   steps: 298   lr:
1.6e-05     reward: 4.44
epis: 1551   score: 7.0   mem len: 327354   epsilon: 0.5498   steps: 423   lr:
1.6e-05     reward: 4.49
epis: 1552   score: 8.0   mem len: 327848   epsilon: 0.5489   steps: 494   lr:
1.6e-05     reward: 4.56
epis: 1553   score: 6.0   mem len: 328228   epsilon: 0.5481   steps: 380   lr:
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1.6e-05   reward: 4.59
epis: 1554   score: 6.0   mem len: 328579   epsilon: 0.5474   steps: 351   lr:
1.6e-05   reward: 4.62
epis: 1555   score: 4.0   mem len: 328877   epsilon: 0.5468   steps: 298   lr:
1.6e-05   reward: 4.63
epis: 1556   score: 5.0   mem len: 329165   epsilon: 0.5463   steps: 288   lr:
1.6e-05   reward: 4.64
epis: 1557   score: 4.0   mem len: 329439   epsilon: 0.5457   steps: 274   lr:
1.6e-05   reward: 4.61
epis: 1558   score: 4.0   mem len: 329683   epsilon: 0.5452   steps: 244   lr:
1.6e-05   reward: 4.63
epis: 1559   score: 5.0   mem len: 329988   epsilon: 0.5446   steps: 305   lr:
1.6e-05   reward: 4.66
epis: 1560   score: 4.0   mem len: 330245   epsilon: 0.5441   steps: 257   lr:
1.6e-05   reward: 4.62
epis: 1561   score: 4.0   mem len: 330501   epsilon: 0.5436   steps: 256   lr:
1.6e-05   reward: 4.64
epis: 1562   score: 2.0   mem len: 330683   epsilon: 0.5432   steps: 182   lr:
1.6e-05   reward: 4.59
epis: 1563   score: 3.0   mem len: 330927   epsilon: 0.5428   steps: 244   lr:
1.6e-05   reward: 4.61
epis: 1564   score: 3.0   mem len: 331153   epsilon: 0.5423   steps: 226   lr:
1.6e-05   reward: 4.59
epis: 1565   score: 5.0   mem len: 331472   epsilon: 0.5417   steps: 319   lr:
1.6e-05   reward: 4.61
epis: 1566   score: 4.0   mem len: 331749   epsilon: 0.5411   steps: 277   lr:
1.6e-05   reward: 4.62
epis: 1567   score: 8.0   mem len: 332181   epsilon: 0.5403   steps: 432   lr:
1.6e-05   reward: 4.68
epis: 1568   score: 14.0   mem len: 332732   epsilon: 0.5392   steps: 551
lr: 1.6e-05   reward: 4.74
epis: 1569   score: 8.0   mem len: 333212   epsilon: 0.5382   steps: 480   lr:
1.6e-05   reward: 4.79
epis: 1570   score: 5.0   mem len: 333535   epsilon: 0.5376   steps: 323   lr:
1.6e-05   reward: 4.8
epis: 1571   score: 7.0   mem len: 333882   epsilon: 0.5369   steps: 347   lr:
1.6e-05   reward: 4.77
epis: 1572   score: 10.0   mem len: 334359   epsilon: 0.536   steps: 477   lr:
1.6e-05   reward: 4.85
epis: 1573   score: 2.0   mem len: 334541   epsilon: 0.5356   steps: 182   lr:
1.6e-05   reward: 4.83
epis: 1574   score: 4.0   mem len: 334800   epsilon: 0.5351   steps: 259   lr:
1.6e-05   reward: 4.82
epis: 1575   score: 5.0   mem len: 335092   epsilon: 0.5345   steps: 292   lr:
1.6e-05   reward: 4.83
epis: 1576   score: 3.0   mem len: 335304   epsilon: 0.5341   steps: 212   lr:
1.6e-05   reward: 4.81
epis: 1577   score: 3.0   mem len: 335516   epsilon: 0.5337   steps: 212   lr:

1.6e-05   reward: 4.77
epis: 1578   score: 5.0   mem len: 335825   epsilon: 0.5331   steps: 309   lr:
1.6e-05   reward: 4.79
epis: 1579   score: 4.0   mem len: 336118   epsilon: 0.5325   steps: 293   lr:
1.6e-05   reward: 4.8
epis: 1580   score: 4.0   mem len: 336394   epsilon: 0.5319   steps: 276   lr:
1.6e-05   reward: 4.79
epis: 1581   score: 2.0   mem len: 336592   epsilon: 0.5315   steps: 198   lr:
1.6e-05   reward: 4.77
epis: 1582   score: 2.0   mem len: 336790   epsilon: 0.5312   steps: 198   lr:
1.6e-05   reward: 4.76
epis: 1583   score: 6.0   mem len: 337162   epsilon: 0.5304   steps: 372   lr:
1.6e-05   reward: 4.78
epis: 1584   score: 4.0   mem len: 337455   epsilon: 0.5298   steps: 293   lr:
1.6e-05   reward: 4.78
epis: 1585   score: 4.0   mem len: 337715   epsilon: 0.5293   steps: 260   lr:
1.6e-05   reward: 4.79
epis: 1586   score: 6.0   mem len: 338054   epsilon: 0.5287   steps: 339   lr:
1.6e-05   reward: 4.81
epis: 1587   score: 2.0   mem len: 338251   epsilon: 0.5283   steps: 197   lr:
1.6e-05   reward: 4.8
epis: 1588   score: 6.0   mem len: 338608   epsilon: 0.5276   steps: 357   lr:
1.6e-05   reward: 4.82
epis: 1589   score: 2.0   mem len: 338829   epsilon: 0.5271   steps: 221   lr:
1.6e-05   reward: 4.81
epis: 1590   score: 4.0   mem len: 339087   epsilon: 0.5266   steps: 258   lr:
1.6e-05   reward: 4.83
epis: 1591   score: 4.0   mem len: 339383   epsilon: 0.526   steps: 296   lr:
1.6e-05   reward: 4.79
epis: 1592   score: 6.0   mem len: 339720   epsilon: 0.5254   steps: 337   lr:
1.6e-05   reward: 4.8
epis: 1593   score: 14.0   mem len: 340293   epsilon: 0.5242   steps: 573
lr: 1.6e-05   reward: 4.9
epis: 1594   score: 2.0   mem len: 340493   epsilon: 0.5238   steps: 200   lr:
1.6e-05   reward: 4.86
epis: 1595   score: 5.0   mem len: 340822   epsilon: 0.5232   steps: 329   lr:
1.6e-05   reward: 4.84
epis: 1596   score: 3.0   mem len: 341051   epsilon: 0.5227   steps: 229   lr:
1.6e-05   reward: 4.81
epis: 1597   score: 13.0   mem len: 341548   epsilon: 0.5217   steps: 497
lr: 1.6e-05   reward: 4.86
epis: 1598   score: 6.0   mem len: 341871   epsilon: 0.5211   steps: 323   lr:
1.6e-05   reward: 4.9
epis: 1599   score: 4.0   mem len: 342163   epsilon: 0.5205   steps: 292   lr:
1.6e-05   reward: 4.89
epis: 1600   score: 7.0   mem len: 342571   epsilon: 0.5197   steps: 408   lr:
1.6e-05   reward: 4.88
epis: 1601   score: 8.0   mem len: 343026   epsilon: 0.5188   steps: 455   lr:

1.6e-05   reward: 4.92
epis: 1602   score: 5.0   mem len: 343374   epsilon: 0.5181   steps: 348   lr:
1.6e-05   reward: 4.92
epis: 1603   score: 7.0   mem len: 343798   epsilon: 0.5173   steps: 424   lr:
1.6e-05   reward: 4.96
epis: 1604   score: 4.0   mem len: 344059   epsilon: 0.5168   steps: 261   lr:
1.6e-05   reward: 4.97
epis: 1605   score: 3.0   mem len: 344272   epsilon: 0.5163   steps: 213   lr:
1.6e-05   reward: 4.93
epis: 1606   score: 6.0   mem len: 344668   epsilon: 0.5156   steps: 396   lr:
1.6e-05   reward: 4.92
epis: 1607   score: 2.0   mem len: 344849   epsilon: 0.5152   steps: 181   lr:
1.6e-05   reward: 4.88
epis: 1608   score: 4.0   mem len: 345123   epsilon: 0.5147   steps: 274   lr:
1.6e-05   reward: 4.88
epis: 1609   score: 3.0   mem len: 345336   epsilon: 0.5142   steps: 213   lr:
1.6e-05   reward: 4.89
epis: 1610   score: 11.0   mem len: 345899   epsilon: 0.5131   steps: 563
lr: 1.6e-05   reward: 4.97
epis: 1611   score: 3.0   mem len: 346110   epsilon: 0.5127   steps: 211   lr:
1.6e-05   reward: 4.99
epis: 1612   score: 2.0   mem len: 346327   epsilon: 0.5123   steps: 217   lr:
1.6e-05   reward: 4.98
epis: 1613   score: 5.0   mem len: 346672   epsilon: 0.5116   steps: 345   lr:
1.6e-05   reward: 4.98
epis: 1614   score: 4.0   mem len: 346949   epsilon: 0.511   steps: 277   lr:
1.6e-05   reward: 4.96
epis: 1615   score: 3.0   mem len: 347162   epsilon: 0.5106   steps: 213   lr:
1.6e-05   reward: 4.93
epis: 1616   score: 5.0   mem len: 347466   epsilon: 0.51   steps: 304   lr:
1.6e-05   reward: 4.92
epis: 1617   score: 4.0   mem len: 347742   epsilon: 0.5095   steps: 276   lr:
1.6e-05   reward: 4.91
epis: 1618   score: 4.0   mem len: 348018   epsilon: 0.5089   steps: 276   lr:
1.6e-05   reward: 4.91
epis: 1619   score: 8.0   mem len: 348424   epsilon: 0.5081   steps: 406   lr:
1.6e-05   reward: 4.97
epis: 1620   score: 6.0   mem len: 348758   epsilon: 0.5075   steps: 334   lr:
1.6e-05   reward: 4.92
epis: 1621   score: 3.0   mem len: 348971   epsilon: 0.507   steps: 213   lr:
1.6e-05   reward: 4.92
epis: 1622   score: 10.0   mem len: 349455   epsilon: 0.5061   steps: 484
lr: 1.6e-05   reward: 4.97
epis: 1623   score: 7.0   mem len: 349857   epsilon: 0.5053   steps: 402   lr:
1.6e-05   reward: 5.02
epis: 1624   score: 6.0   mem len: 350192   epsilon: 0.5046   steps: 335   lr:
1.6e-05   reward: 5.06
epis: 1625   score: 7.0   mem len: 350614   epsilon: 0.5038   steps: 422   lr:

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1.6e-05     reward: 5.08
epis: 1626   score: 9.0   mem len: 351098   epsilon: 0.5028   steps: 484    lr:
1.6e-05     reward: 5.09
epis: 1627   score: 3.0   mem len: 351309   epsilon: 0.5024   steps: 211    lr:
1.6e-05     reward: 5.09
epis: 1628   score: 4.0   mem len: 351605   epsilon: 0.5018   steps: 296    lr:
1.6e-05     reward: 5.07
epis: 1629   score: 4.0   mem len: 351902   epsilon: 0.5012   steps: 297    lr:
1.6e-05     reward: 5.08
epis: 1630   score: 6.0   mem len: 352296   epsilon: 0.5005   steps: 394    lr:
1.6e-05     reward: 5.1
epis: 1631   score: 8.0   mem len: 352741   epsilon: 0.4996   steps: 445    lr:
1.6e-05     reward: 5.11
epis: 1632   score: 5.0   mem len: 353066   epsilon: 0.4989   steps: 325    lr:
1.6e-05     reward: 5.1
epis: 1633   score: 6.0   mem len: 353437   epsilon: 0.4982   steps: 371    lr:
1.6e-05     reward: 5.09
epis: 1634   score: 7.0   mem len: 353858   epsilon: 0.4974   steps: 421    lr:
1.6e-05     reward: 5.12
epis: 1635   score: 2.0   mem len: 354056   epsilon: 0.497   steps: 198    lr:
1.6e-05     reward: 5.11
epis: 1636   score: 5.0   mem len: 354378   epsilon: 0.4963   steps: 322    lr:
1.6e-05     reward: 5.12
epis: 1637   score: 5.0   mem len: 354668   epsilon: 0.4958   steps: 290    lr:
1.6e-05     reward: 5.13
epis: 1638   score: 7.0   mem len: 355045   epsilon: 0.495   steps: 377    lr:
1.6e-05     reward: 5.15
epis: 1639   score: 4.0   mem len: 355305   epsilon: 0.4945   steps: 260    lr:
1.6e-05     reward: 5.18
epis: 1640   score: 4.0   mem len: 355562   epsilon: 0.494   steps: 257    lr:
1.6e-05     reward: 5.17
epis: 1641   score: 3.0   mem len: 355828   epsilon: 0.4935   steps: 266    lr:
1.6e-05     reward: 5.14
epis: 1642   score: 3.0   mem len: 356060   epsilon: 0.493   steps: 232    lr:
1.6e-05     reward: 5.14
epis: 1643   score: 5.0   mem len: 356384   epsilon: 0.4924   steps: 324    lr:
1.6e-05     reward: 5.12
epis: 1644   score: 3.0   mem len: 356615   epsilon: 0.4919   steps: 231    lr:
1.6e-05     reward: 5.12
epis: 1645   score: 7.0   mem len: 356861   epsilon: 0.4914   steps: 246    lr:
1.6e-05     reward: 5.13
epis: 1646   score: 5.0   mem len: 357186   epsilon: 0.4908   steps: 325    lr:
1.6e-05     reward: 5.14
epis: 1647   score: 5.0   mem len: 357495   epsilon: 0.4902   steps: 309    lr:
1.6e-05     reward: 5.15
epis: 1648   score: 6.0   mem len: 357851   epsilon: 0.4895   steps: 356    lr:
1.6e-05     reward: 5.15
epis: 1649   score: 12.0   mem len: 358364   epsilon: 0.4884   steps: 513
```

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lr: 1.6e-05     reward: 5.2
epis: 1650   score: 2.0   mem len: 358546   epsilon: 0.4881   steps: 182   lr:
1.6e-05     reward: 5.18
epis: 1651   score: 5.0   mem len: 358852   epsilon: 0.4875   steps: 306   lr:
1.6e-05     reward: 5.16
epis: 1652   score: 3.0   mem len: 359065   epsilon: 0.487   steps: 213   lr:
1.6e-05     reward: 5.11
epis: 1653   score: 3.0   mem len: 359313   epsilon: 0.4866   steps: 248   lr:
1.6e-05     reward: 5.08
epis: 1654   score: 6.0   mem len: 359711   epsilon: 0.4858   steps: 398   lr:
1.6e-05     reward: 5.08
epis: 1655   score: 8.0   mem len: 360113   epsilon: 0.485   steps: 402   lr:
1.6e-05     reward: 5.12
epis: 1656   score: 6.0   mem len: 360486   epsilon: 0.4842   steps: 373   lr:
1.6e-05     reward: 5.13
epis: 1657   score: 6.0   mem len: 360858   epsilon: 0.4835   steps: 372   lr:
1.6e-05     reward: 5.15
epis: 1658   score: 5.0   mem len: 361163   epsilon: 0.4829   steps: 305   lr:
1.6e-05     reward: 5.16
epis: 1659   score: 4.0   mem len: 361478   epsilon: 0.4823   steps: 315   lr:
1.6e-05     reward: 5.15
epis: 1660   score: 3.0   mem len: 361709   epsilon: 0.4818   steps: 231   lr:
1.6e-05     reward: 5.14
epis: 1661   score: 2.0   mem len: 361907   epsilon: 0.4814   steps: 198   lr:
1.6e-05     reward: 5.12
epis: 1662   score: 6.0   mem len: 362261   epsilon: 0.4807   steps: 354   lr:
1.6e-05     reward: 5.16
epis: 1663   score: 5.0   mem len: 362567   epsilon: 0.4801   steps: 306   lr:
1.6e-05     reward: 5.18
epis: 1664   score: 12.0   mem len: 363010   epsilon: 0.4792   steps: 443
lr: 1.6e-05     reward: 5.27
epis: 1665   score: 4.0   mem len: 363289   epsilon: 0.4787   steps: 279   lr:
1.6e-05     reward: 5.26
epis: 1666   score: 7.0   mem len: 363690   epsilon: 0.4779   steps: 401   lr:
1.6e-05     reward: 5.29
epis: 1667   score: 4.0   mem len: 363983   epsilon: 0.4773   steps: 293   lr:
1.6e-05     reward: 5.25
epis: 1668   score: 4.0   mem len: 364240   epsilon: 0.4768   steps: 257   lr:
1.6e-05     reward: 5.15
epis: 1669   score: 3.0   mem len: 364485   epsilon: 0.4763   steps: 245   lr:
1.6e-05     reward: 5.1
epis: 1670   score: 7.0   mem len: 364900   epsilon: 0.4755   steps: 415   lr:
1.6e-05     reward: 5.12
epis: 1671   score: 9.0   mem len: 365367   epsilon: 0.4746   steps: 467   lr:
1.6e-05     reward: 5.14
epis: 1672   score: 4.0   mem len: 365641   epsilon: 0.474   steps: 274   lr:
1.6e-05     reward: 5.08
epis: 1673   score: 8.0   mem len: 366108   epsilon: 0.4731   steps: 467   lr:
```

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1.6e-05      reward: 5.14
epis: 1674   score: 3.0   mem len: 366335   epsilon: 0.4727   steps: 227   lr:
1.6e-05      reward: 5.13
epis: 1675   score: 8.0   mem len: 366806   epsilon: 0.4717   steps: 471   lr:
1.6e-05      reward: 5.16
epis: 1676   score: 8.0   mem len: 367218   epsilon: 0.4709   steps: 412   lr:
1.6e-05      reward: 5.21
epis: 1677   score: 4.0   mem len: 367494   epsilon: 0.4704   steps: 276   lr:
1.6e-05      reward: 5.22
epis: 1678   score: 5.0   mem len: 367786   epsilon: 0.4698   steps: 292   lr:
1.6e-05      reward: 5.22
epis: 1679   score: 7.0   mem len: 368189   epsilon: 0.469   steps: 403   lr:
1.6e-05      reward: 5.25
epis: 1680   score: 2.0   mem len: 368388   epsilon: 0.4686   steps: 199   lr:
1.6e-05      reward: 5.23
epis: 1681   score: 5.0   mem len: 368681   epsilon: 0.468   steps: 293   lr:
1.6e-05      reward: 5.26
epis: 1682   score: 5.0   mem len: 368991   epsilon: 0.4674   steps: 310   lr:
1.6e-05      reward: 5.29
epis: 1683   score: 6.0   mem len: 369363   epsilon: 0.4667   steps: 372   lr:
1.6e-05      reward: 5.29
epis: 1684   score: 5.0   mem len: 369668   epsilon: 0.4661   steps: 305   lr:
1.6e-05      reward: 5.3
epis: 1685   score: 3.0   mem len: 369897   epsilon: 0.4656   steps: 229   lr:
1.6e-05      reward: 5.29
epis: 1686   score: 4.0   mem len: 370151   epsilon: 0.4651   steps: 254   lr:
1.6e-05      reward: 5.27
epis: 1687   score: 2.0   mem len: 370348   epsilon: 0.4647   steps: 197   lr:
1.6e-05      reward: 5.27
epis: 1688   score: 6.0   mem len: 370690   epsilon: 0.464   steps: 342   lr:
1.6e-05      reward: 5.27
epis: 1689   score: 5.0   mem len: 371010   epsilon: 0.4634   steps: 320   lr:
1.6e-05      reward: 5.3
epis: 1690   score: 6.0   mem len: 371353   epsilon: 0.4627   steps: 343   lr:
1.6e-05      reward: 5.32
epis: 1691   score: 3.0   mem len: 371598   epsilon: 0.4622   steps: 245   lr:
1.6e-05      reward: 5.31
epis: 1692   score: 4.0   mem len: 371873   epsilon: 0.4617   steps: 275   lr:
1.6e-05      reward: 5.29
epis: 1693   score: 4.0   mem len: 372135   epsilon: 0.4612   steps: 262   lr:
1.6e-05      reward: 5.19
epis: 1694   score: 7.0   mem len: 372495   epsilon: 0.4605   steps: 360   lr:
1.6e-05      reward: 5.24
epis: 1695   score: 9.0   mem len: 372885   epsilon: 0.4597   steps: 390   lr:
1.6e-05      reward: 5.28
epis: 1696   score: 3.0   mem len: 373118   epsilon: 0.4592   steps: 233   lr:
1.6e-05      reward: 5.28
epis: 1697   score: 5.0   mem len: 373444   epsilon: 0.4586   steps: 326   lr:
```

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1.6e-05     reward: 5.2
epis: 1698    score: 4.0    mem len: 373716    epsilon: 0.458     steps: 272     lr:
1.6e-05     reward: 5.18
epis: 1699    score: 4.0    mem len: 373976    epsilon: 0.4575    steps: 260     lr:
1.6e-05     reward: 5.18
epis: 1700    score: 5.0    mem len: 374302    epsilon: 0.4569    steps: 326     lr:
1.6e-05     reward: 5.16
epis: 1701    score: 6.0    mem len: 374644    epsilon: 0.4562    steps: 342     lr:
1.6e-05     reward: 5.14
epis: 1702    score: 8.0    mem len: 375044    epsilon: 0.4554    steps: 400     lr:
1.6e-05     reward: 5.17
epis: 1703    score: 7.0    mem len: 375426    epsilon: 0.4547    steps: 382     lr:
1.6e-05     reward: 5.17
epis: 1704    score: 11.0    mem len: 375981    epsilon: 0.4536    steps: 555
lr: 1.6e-05     reward: 5.24
epis: 1705    score: 13.0    mem len: 376553    epsilon: 0.4524    steps: 572
lr: 1.6e-05     reward: 5.34
epis: 1706    score: 10.0    mem len: 377067    epsilon: 0.4514    steps: 514
lr: 1.6e-05     reward: 5.38
epis: 1707    score: 5.0    mem len: 377357    epsilon: 0.4508    steps: 290     lr:
1.6e-05     reward: 5.41
epis: 1708    score: 4.0    mem len: 377597    epsilon: 0.4504    steps: 240     lr:
1.6e-05     reward: 5.41
epis: 1709    score: 9.0    mem len: 378050    epsilon: 0.4495    steps: 453     lr:
1.6e-05     reward: 5.47
epis: 1710    score: 6.0    mem len: 378425    epsilon: 0.4487    steps: 375     lr:
1.6e-05     reward: 5.42
epis: 1711    score: 5.0    mem len: 378751    epsilon: 0.4481    steps: 326     lr:
1.6e-05     reward: 5.44
epis: 1712    score: 5.0    mem len: 379080    epsilon: 0.4474    steps: 329     lr:
1.6e-05     reward: 5.47
epis: 1713    score: 8.0    mem len: 379519    epsilon: 0.4466    steps: 439     lr:
1.6e-05     reward: 5.5
epis: 1714    score: 7.0    mem len: 379917    epsilon: 0.4458    steps: 398     lr:
1.6e-05     reward: 5.53
epis: 1715    score: 6.0    mem len: 380274    epsilon: 0.4451    steps: 357     lr:
1.6e-05     reward: 5.56
epis: 1716    score: 2.0    mem len: 380453    epsilon: 0.4447    steps: 179     lr:
1.6e-05     reward: 5.53
epis: 1717    score: 7.0    mem len: 380877    epsilon: 0.4439    steps: 424     lr:
1.6e-05     reward: 5.56
epis: 1718    score: 7.0    mem len: 381240    epsilon: 0.4431    steps: 363     lr:
1.6e-05     reward: 5.59
epis: 1719    score: 3.0    mem len: 381449    epsilon: 0.4427    steps: 209     lr:
1.6e-05     reward: 5.54
epis: 1720    score: 7.0    mem len: 381853    epsilon: 0.4419    steps: 404     lr:
1.6e-05     reward: 5.55
epis: 1721    score: 8.0    mem len: 382280    epsilon: 0.4411    steps: 427     lr:
```

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1.6e-05     reward: 5.6
epis: 1722   score: 6.0   mem len: 382583   epsilon: 0.4405   steps: 303    lr:
1.6e-05     reward: 5.56
epis: 1723   score: 6.0   mem len: 382918   epsilon: 0.4398   steps: 335    lr:
1.6e-05     reward: 5.55
epis: 1724   score: 10.0   mem len: 383258   epsilon: 0.4391   steps: 340
lr: 1.6e-05     reward: 5.59
epis: 1725   score: 5.0   mem len: 383549   epsilon: 0.4386   steps: 291    lr:
1.6e-05     reward: 5.57
epis: 1726   score: 5.0   mem len: 383863   epsilon: 0.4379   steps: 314    lr:
1.6e-05     reward: 5.53
epis: 1727   score: 11.0   mem len: 384286   epsilon: 0.4371   steps: 423
lr: 1.6e-05     reward: 5.61
epis: 1728   score: 5.0   mem len: 384571   epsilon: 0.4365   steps: 285    lr:
1.6e-05     reward: 5.62
epis: 1729   score: 6.0   mem len: 384927   epsilon: 0.4358   steps: 356    lr:
1.6e-05     reward: 5.64
epis: 1730   score: 4.0   mem len: 385186   epsilon: 0.4353   steps: 259    lr:
1.6e-05     reward: 5.62
epis: 1731   score: 8.0   mem len: 385664   epsilon: 0.4344   steps: 478    lr:
1.6e-05     reward: 5.62
epis: 1732   score: 6.0   mem len: 386021   epsilon: 0.4337   steps: 357    lr:
1.6e-05     reward: 5.63
epis: 1733   score: 5.0   mem len: 386293   epsilon: 0.4331   steps: 272    lr:
1.6e-05     reward: 5.62
epis: 1734   score: 4.0   mem len: 386555   epsilon: 0.4326   steps: 262    lr:
1.6e-05     reward: 5.59
epis: 1735   score: 10.0   mem len: 387042   epsilon: 0.4317   steps: 487
lr: 1.6e-05     reward: 5.67
epis: 1736   score: 3.0   mem len: 387251   epsilon: 0.4312   steps: 209    lr:
1.6e-05     reward: 5.65
epis: 1737   score: 4.0   mem len: 387507   epsilon: 0.4307   steps: 256    lr:
1.6e-05     reward: 5.64
epis: 1738   score: 5.0   mem len: 387827   epsilon: 0.4301   steps: 320    lr:
1.6e-05     reward: 5.62
epis: 1739   score: 8.0   mem len: 388275   epsilon: 0.4292   steps: 448    lr:
1.6e-05     reward: 5.66
epis: 1740   score: 5.0   mem len: 388602   epsilon: 0.4286   steps: 327    lr:
1.6e-05     reward: 5.67
epis: 1741   score: 5.0   mem len: 388912   epsilon: 0.428   steps: 310    lr:
1.6e-05     reward: 5.69
epis: 1742   score: 3.0   mem len: 389140   epsilon: 0.4275   steps: 228    lr:
1.6e-05     reward: 5.69
epis: 1743   score: 7.0   mem len: 389564   epsilon: 0.4267   steps: 424    lr:
1.6e-05     reward: 5.71
epis: 1744   score: 5.0   mem len: 389871   epsilon: 0.4261   steps: 307    lr:
1.6e-05     reward: 5.73
epis: 1745   score: 4.0   mem len: 390110   epsilon: 0.4256   steps: 239    lr:
```

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1.6e-05     reward: 5.7
epis: 1746    score: 7.0    mem len: 390537    epsilon: 0.4247    steps: 427    lr:
1.6e-05     reward: 5.72
epis: 1747    score: 5.0    mem len: 390842    epsilon: 0.4241    steps: 305    lr:
1.6e-05     reward: 5.72
epis: 1748    score: 4.0    mem len: 391084    epsilon: 0.4237    steps: 242    lr:
1.6e-05     reward: 5.7
epis: 1749    score: 6.0    mem len: 391438    epsilon: 0.423    steps: 354    lr:
1.6e-05     reward: 5.64
epis: 1750    score: 4.0    mem len: 391694    epsilon: 0.4224    steps: 256    lr:
1.6e-05     reward: 5.66
epis: 1751    score: 8.0    mem len: 392150    epsilon: 0.4215    steps: 456    lr:
1.6e-05     reward: 5.69
epis: 1752    score: 4.0    mem len: 392409    epsilon: 0.421    steps: 259    lr:
1.6e-05     reward: 5.7
epis: 1753    score: 3.0    mem len: 392619    epsilon: 0.4206    steps: 210    lr:
1.6e-05     reward: 5.7
epis: 1754    score: 5.0    mem len: 392909    epsilon: 0.42    steps: 290    lr:
1.6e-05     reward: 5.69
epis: 1755    score: 7.0    mem len: 393303    epsilon: 0.4193    steps: 394    lr:
1.6e-05     reward: 5.68
epis: 1756    score: 5.0    mem len: 393612    epsilon: 0.4186    steps: 309    lr:
1.6e-05     reward: 5.67
epis: 1757    score: 4.0    mem len: 393909    epsilon: 0.4181    steps: 297    lr:
1.6e-05     reward: 5.65
epis: 1758    score: 7.0    mem len: 394313    epsilon: 0.4173    steps: 404    lr:
1.6e-05     reward: 5.67
epis: 1759    score: 8.0    mem len: 394752    epsilon: 0.4164    steps: 439    lr:
1.6e-05     reward: 5.71
epis: 1760    score: 4.0    mem len: 395011    epsilon: 0.4159    steps: 259    lr:
1.6e-05     reward: 5.72
epis: 1761    score: 9.0    mem len: 395504    epsilon: 0.4149    steps: 493    lr:
1.6e-05     reward: 5.79
epis: 1762    score: 4.0    mem len: 395747    epsilon: 0.4144    steps: 243    lr:
1.6e-05     reward: 5.77
epis: 1763    score: 6.0    mem len: 396129    epsilon: 0.4137    steps: 382    lr:
1.6e-05     reward: 5.78
epis: 1764    score: 6.0    mem len: 396501    epsilon: 0.4129    steps: 372    lr:
1.6e-05     reward: 5.72
epis: 1765    score: 5.0    mem len: 396777    epsilon: 0.4124    steps: 276    lr:
1.6e-05     reward: 5.73
epis: 1766    score: 7.0    mem len: 397201    epsilon: 0.4115    steps: 424    lr:
1.6e-05     reward: 5.73
epis: 1767    score: 5.0    mem len: 397507    epsilon: 0.4109    steps: 306    lr:
1.6e-05     reward: 5.74
epis: 1768    score: 13.0    mem len: 398001    epsilon: 0.41    steps: 494    lr:
1.6e-05     reward: 5.83
epis: 1769    score: 4.0    mem len: 398275    epsilon: 0.4094    steps: 274    lr:
```

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1.6e-05     reward: 5.84
epis: 1770   score: 3.0   mem len: 398486   epsilon: 0.409     steps: 211     lr:
1.6e-05     reward: 5.8
epis: 1771   score: 6.0   mem len: 398819   epsilon: 0.4083    steps: 333     lr:
1.6e-05     reward: 5.77
epis: 1772   score: 4.0   mem len: 399097   epsilon: 0.4078    steps: 278     lr:
1.6e-05     reward: 5.77
epis: 1773   score: 9.0   mem len: 399604   epsilon: 0.4068    steps: 507     lr:
1.6e-05     reward: 5.78
epis: 1774   score: 5.0   mem len: 399892   epsilon: 0.4062    steps: 288     lr:
1.6e-05     reward: 5.8
epis: 1775   score: 6.0   mem len: 400248   epsilon: 0.4055    steps: 356     lr:
6.4e-06     reward: 5.78
epis: 1776   score: 3.0   mem len: 400476   epsilon: 0.4051    steps: 228     lr:
6.4e-06     reward: 5.73
epis: 1777   score: 8.0   mem len: 400921   epsilon: 0.4042    steps: 445     lr:
6.4e-06     reward: 5.77
epis: 1778   score: 8.0   mem len: 401388   epsilon: 0.4032    steps: 467     lr:
6.4e-06     reward: 5.8
epis: 1779   score: 8.0   mem len: 401852   epsilon: 0.4023    steps: 464     lr:
6.4e-06     reward: 5.81
epis: 1780   score: 11.0   mem len: 402395   epsilon: 0.4013    steps: 543
lr: 6.4e-06     reward: 5.9
epis: 1781   score: 9.0   mem len: 402738   epsilon: 0.4006    steps: 343     lr:
6.4e-06     reward: 5.94
epis: 1782   score: 3.0   mem len: 402950   epsilon: 0.4002    steps: 212     lr:
6.4e-06     reward: 5.92
epis: 1783   score: 6.0   mem len: 403305   epsilon: 0.3995    steps: 355     lr:
6.4e-06     reward: 5.92
epis: 1784   score: 4.0   mem len: 403582   epsilon: 0.3989    steps: 277     lr:
6.4e-06     reward: 5.91
epis: 1785   score: 5.0   mem len: 403908   epsilon: 0.3983    steps: 326     lr:
6.4e-06     reward: 5.93
epis: 1786   score: 11.0   mem len: 404407   epsilon: 0.3973    steps: 499
lr: 6.4e-06     reward: 6.0
epis: 1787   score: 3.0   mem len: 404620   epsilon: 0.3969    steps: 213     lr:
6.4e-06     reward: 6.01
epis: 1788   score: 3.0   mem len: 404833   epsilon: 0.3964    steps: 213     lr:
6.4e-06     reward: 5.98
epis: 1789   score: 6.0   mem len: 405172   epsilon: 0.3958    steps: 339     lr:
6.4e-06     reward: 5.99
epis: 1790   score: 7.0   mem len: 405553   epsilon: 0.395     steps: 381     lr:
6.4e-06     reward: 6.0
epis: 1791   score: 9.0   mem len: 406052   epsilon: 0.394     steps: 499     lr:
6.4e-06     reward: 6.06
epis: 1792   score: 3.0   mem len: 406263   epsilon: 0.3936    steps: 211     lr:
6.4e-06     reward: 6.05
epis: 1793   score: 5.0   mem len: 406590   epsilon: 0.3929    steps: 327     lr:
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6.4e-06     reward: 6.06
epis: 1794    score: 8.0    mem len: 407042    epsilon: 0.3921    steps: 452    lr:
6.4e-06     reward: 6.07
epis: 1795    score: 6.0    mem len: 407396    epsilon: 0.3914    steps: 354    lr:
6.4e-06     reward: 6.04
epis: 1796    score: 5.0    mem len: 407705    epsilon: 0.3907    steps: 309    lr:
6.4e-06     reward: 6.06
epis: 1797    score: 6.0    mem len: 408062    epsilon: 0.39    steps: 357    lr:
6.4e-06     reward: 6.07
epis: 1798    score: 3.0    mem len: 408273    epsilon: 0.3896    steps: 211    lr:
6.4e-06     reward: 6.06
epis: 1799    score: 5.0    mem len: 408620    epsilon: 0.3889    steps: 347    lr:
6.4e-06     reward: 6.07
epis: 1800    score: 7.0    mem len: 409044    epsilon: 0.3881    steps: 424    lr:
6.4e-06     reward: 6.09
epis: 1801    score: 5.0    mem len: 409351    epsilon: 0.3875    steps: 307    lr:
6.4e-06     reward: 6.08
epis: 1802    score: 3.0    mem len: 409561    epsilon: 0.3871    steps: 210    lr:
6.4e-06     reward: 6.03
epis: 1803    score: 4.0    mem len: 409802    epsilon: 0.3866    steps: 241    lr:
6.4e-06     reward: 6.0
epis: 1804    score: 7.0    mem len: 410207    epsilon: 0.3858    steps: 405    lr:
6.4e-06     reward: 5.96
epis: 1805    score: 5.0    mem len: 410553    epsilon: 0.3851    steps: 346    lr:
6.4e-06     reward: 5.88
epis: 1806    score: 10.0    mem len: 411090    epsilon: 0.384    steps: 537    lr:
6.4e-06     reward: 5.88
epis: 1807    score: 7.0    mem len: 411484    epsilon: 0.3833    steps: 394    lr:
6.4e-06     reward: 5.9
epis: 1808    score: 9.0    mem len: 411955    epsilon: 0.3823    steps: 471    lr:
6.4e-06     reward: 5.95
epis: 1809    score: 4.0    mem len: 412195    epsilon: 0.3819    steps: 240    lr:
6.4e-06     reward: 5.9
epis: 1810    score: 3.0    mem len: 412406    epsilon: 0.3814    steps: 211    lr:
6.4e-06     reward: 5.87
epis: 1811    score: 8.0    mem len: 412850    epsilon: 0.3806    steps: 444    lr:
6.4e-06     reward: 5.9
epis: 1812    score: 4.0    mem len: 413094    epsilon: 0.3801    steps: 244    lr:
6.4e-06     reward: 5.89
epis: 1813    score: 6.0    mem len: 413440    epsilon: 0.3794    steps: 346    lr:
6.4e-06     reward: 5.87
epis: 1814    score: 3.0    mem len: 413653    epsilon: 0.379    steps: 213    lr:
6.4e-06     reward: 5.83
epis: 1815    score: 6.0    mem len: 414011    epsilon: 0.3783    steps: 358    lr:
6.4e-06     reward: 5.83
epis: 1816    score: 7.0    mem len: 414396    epsilon: 0.3775    steps: 385    lr:
6.4e-06     reward: 5.88
epis: 1817    score: 6.0    mem len: 414752    epsilon: 0.3768    steps: 356    lr:
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6.4e-06     reward: 5.87
epis: 1818   score: 6.0   mem len: 415089   epsilon: 0.3761    steps: 337    lr:
6.4e-06     reward: 5.86
epis: 1819   score: 6.0   mem len: 415444   epsilon: 0.3754    steps: 355    lr:
6.4e-06     reward: 5.89
epis: 1820   score: 10.0   mem len: 415933   epsilon: 0.3745    steps: 489
lr: 6.4e-06     reward: 5.92
epis: 1821   score: 13.0   mem len: 416399   epsilon: 0.3735    steps: 466
lr: 6.4e-06     reward: 5.97
epis: 1822   score: 7.0   mem len: 416802   epsilon: 0.3727    steps: 403    lr:
6.4e-06     reward: 5.98
epis: 1823   score: 7.0   mem len: 417188   epsilon: 0.372    steps: 386    lr:
6.4e-06     reward: 5.99
epis: 1824   score: 6.0   mem len: 417519   epsilon: 0.3713    steps: 331    lr:
6.4e-06     reward: 5.95
epis: 1825   score: 4.0   mem len: 417815   epsilon: 0.3707    steps: 296    lr:
6.4e-06     reward: 5.94
epis: 1826   score: 9.0   mem len: 418313   epsilon: 0.3697    steps: 498    lr:
6.4e-06     reward: 5.98
epis: 1827   score: 6.0   mem len: 418652   epsilon: 0.3691    steps: 339    lr:
6.4e-06     reward: 5.93
epis: 1828   score: 5.0   mem len: 418981   epsilon: 0.3684    steps: 329    lr:
6.4e-06     reward: 5.93
epis: 1829   score: 3.0   mem len: 419193   epsilon: 0.368    steps: 212    lr:
6.4e-06     reward: 5.9
epis: 1830   score: 6.0   mem len: 419571   epsilon: 0.3672    steps: 378    lr:
6.4e-06     reward: 5.92
epis: 1831   score: 5.0   mem len: 419897   epsilon: 0.3666    steps: 326    lr:
6.4e-06     reward: 5.89
epis: 1832   score: 4.0   mem len: 420188   epsilon: 0.366    steps: 291    lr:
6.4e-06     reward: 5.87
epis: 1833   score: 3.0   mem len: 420398   epsilon: 0.3656    steps: 210    lr:
6.4e-06     reward: 5.85
epis: 1834   score: 6.0   mem len: 420720   epsilon: 0.365    steps: 322    lr:
6.4e-06     reward: 5.87
epis: 1835   score: 6.0   mem len: 421075   epsilon: 0.3643    steps: 355    lr:
6.4e-06     reward: 5.83
epis: 1836   score: 7.0   mem len: 421502   epsilon: 0.3634    steps: 427    lr:
6.4e-06     reward: 5.87
epis: 1837   score: 6.0   mem len: 421863   epsilon: 0.3627    steps: 361    lr:
6.4e-06     reward: 5.89
epis: 1838   score: 3.0   mem len: 422075   epsilon: 0.3623    steps: 212    lr:
6.4e-06     reward: 5.87
epis: 1839   score: 4.0   mem len: 422317   epsilon: 0.3618    steps: 242    lr:
6.4e-06     reward: 5.83
epis: 1840   score: 11.0   mem len: 422823   epsilon: 0.3608    steps: 506
lr: 6.4e-06     reward: 5.89
epis: 1841   score: 5.0   mem len: 423147   epsilon: 0.3602    steps: 324    lr:
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6.4e-06      reward: 5.89
epis: 1842   score: 6.0   mem len: 423498   epsilon: 0.3595   steps: 351   lr:
6.4e-06      reward: 5.92
epis: 1843   score: 6.0   mem len: 423869   epsilon: 0.3587   steps: 371   lr:
6.4e-06      reward: 5.91
epis: 1844   score: 8.0   mem len: 424292   epsilon: 0.3579   steps: 423   lr:
6.4e-06      reward: 5.94
epis: 1845   score: 6.0   mem len: 424665   epsilon: 0.3572   steps: 373   lr:
6.4e-06      reward: 5.96
epis: 1846   score: 9.0   mem len: 425111   epsilon: 0.3563   steps: 446   lr:
6.4e-06      reward: 5.98
epis: 1847   score: 8.0   mem len: 425531   epsilon: 0.3554   steps: 420   lr:
6.4e-06      reward: 6.01
epis: 1848   score: 10.0   mem len: 426030   epsilon: 0.3545   steps: 499
lr: 6.4e-06      reward: 6.07
epis: 1849   score: 8.0   mem len: 426418   epsilon: 0.3537   steps: 388   lr:
6.4e-06      reward: 6.09
epis: 1850   score: 6.0   mem len: 426790   epsilon: 0.353    steps: 372   lr:
6.4e-06      reward: 6.11
epis: 1851   score: 4.0   mem len: 427068   epsilon: 0.3524   steps: 278   lr:
6.4e-06      reward: 6.07
epis: 1852   score: 8.0   mem len: 427502   epsilon: 0.3515   steps: 434   lr:
6.4e-06      reward: 6.11
epis: 1853   score: 3.0   mem len: 427711   epsilon: 0.3511   steps: 209   lr:
6.4e-06      reward: 6.11
epis: 1854   score: 8.0   mem len: 428093   epsilon: 0.3504   steps: 382   lr:
6.4e-06      reward: 6.14
epis: 1855   score: 9.0   mem len: 428564   epsilon: 0.3494   steps: 471   lr:
6.4e-06      reward: 6.16
epis: 1856   score: 8.0   mem len: 428972   epsilon: 0.3486   steps: 408   lr:
6.4e-06      reward: 6.19
epis: 1857   score: 3.0   mem len: 429221   epsilon: 0.3481   steps: 249   lr:
6.4e-06      reward: 6.18
epis: 1858   score: 10.0   mem len: 429753   epsilon: 0.3471   steps: 532
lr: 6.4e-06      reward: 6.21
epis: 1859   score: 4.0   mem len: 429995   epsilon: 0.3466   steps: 242   lr:
6.4e-06      reward: 6.17
epis: 1860   score: 7.0   mem len: 430421   epsilon: 0.3458   steps: 426   lr:
6.4e-06      reward: 6.2
epis: 1861   score: 3.0   mem len: 430667   epsilon: 0.3453   steps: 246   lr:
6.4e-06      reward: 6.14
epis: 1862   score: 6.0   mem len: 430991   epsilon: 0.3446   steps: 324   lr:
6.4e-06      reward: 6.16
epis: 1863   score: 4.0   mem len: 431267   epsilon: 0.3441   steps: 276   lr:
6.4e-06      reward: 6.14
epis: 1864   score: 11.0   mem len: 431811   epsilon: 0.343    steps: 544   lr:
6.4e-06      reward: 6.19
epis: 1865   score: 7.0   mem len: 432166   epsilon: 0.3423   steps: 355   lr:
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6.4e-06   reward: 6.21
epis: 1866   score: 5.0   mem len: 432472   epsilon: 0.3417   steps: 306   lr:
6.4e-06   reward: 6.19
epis: 1867   score: 4.0   mem len: 432733   epsilon: 0.3412   steps: 261   lr:
6.4e-06   reward: 6.18
epis: 1868   score: 5.0   mem len: 433040   epsilon: 0.3406   steps: 307   lr:
6.4e-06   reward: 6.1
epis: 1869   score: 10.0   mem len: 433527   epsilon: 0.3396   steps: 487
lr: 6.4e-06   reward: 6.16
epis: 1870   score: 5.0   mem len: 433819   epsilon: 0.339   steps: 292   lr:
6.4e-06   reward: 6.18
epis: 1871   score: 5.0   mem len: 434110   epsilon: 0.3385   steps: 291   lr:
6.4e-06   reward: 6.17
epis: 1872   score: 8.0   mem len: 434519   epsilon: 0.3377   steps: 409   lr:
6.4e-06   reward: 6.21
epis: 1873   score: 4.0   mem len: 434761   epsilon: 0.3372   steps: 242   lr:
6.4e-06   reward: 6.16
epis: 1874   score: 3.0   mem len: 434971   epsilon: 0.3368   steps: 210   lr:
6.4e-06   reward: 6.14
epis: 1875   score: 5.0   mem len: 435278   epsilon: 0.3361   steps: 307   lr:
6.4e-06   reward: 6.13
epis: 1876   score: 13.0   mem len: 435801   epsilon: 0.3351   steps: 523
lr: 6.4e-06   reward: 6.23
epis: 1877   score: 7.0   mem len: 436202   epsilon: 0.3343   steps: 401   lr:
6.4e-06   reward: 6.22
epis: 1878   score: 5.0   mem len: 436508   epsilon: 0.3337   steps: 306   lr:
6.4e-06   reward: 6.19
epis: 1879   score: 5.0   mem len: 436813   epsilon: 0.3331   steps: 305   lr:
6.4e-06   reward: 6.16
epis: 1880   score: 3.0   mem len: 437044   epsilon: 0.3327   steps: 231   lr:
6.4e-06   reward: 6.08
epis: 1881   score: 5.0   mem len: 437367   epsilon: 0.332   steps: 323   lr:
6.4e-06   reward: 6.04
epis: 1882   score: 7.0   mem len: 437734   epsilon: 0.3313   steps: 367   lr:
6.4e-06   reward: 6.08
epis: 1883   score: 8.0   mem len: 438141   epsilon: 0.3305   steps: 407   lr:
6.4e-06   reward: 6.1
epis: 1884   score: 8.0   mem len: 438422   epsilon: 0.3299   steps: 281   lr:
6.4e-06   reward: 6.14
epis: 1885   score: 4.0   mem len: 438697   epsilon: 0.3294   steps: 275   lr:
6.4e-06   reward: 6.13
epis: 1886   score: 10.0   mem len: 439155   epsilon: 0.3285   steps: 458
lr: 6.4e-06   reward: 6.12
epis: 1887   score: 4.0   mem len: 439431   epsilon: 0.3279   steps: 276   lr:
6.4e-06   reward: 6.13
epis: 1888   score: 12.0   mem len: 439921   epsilon: 0.327   steps: 490   lr:
6.4e-06   reward: 6.22
epis: 1889   score: 6.0   mem len: 440269   epsilon: 0.3263   steps: 348   lr:

6.4e-06   reward: 6.22
epis: 1890   score: 9.0   mem len: 440690   epsilon: 0.3254   steps: 421   lr:
6.4e-06   reward: 6.24
epis: 1891   score: 6.0   mem len: 441066   epsilon: 0.3247   steps: 376   lr:
6.4e-06   reward: 6.21
epis: 1892   score: 9.0   mem len: 441493   epsilon: 0.3238   steps: 427   lr:
6.4e-06   reward: 6.27
epis: 1893   score: 6.0   mem len: 441871   epsilon: 0.3231   steps: 378   lr:
6.4e-06   reward: 6.28
epis: 1894   score: 4.0   mem len: 442152   epsilon: 0.3225   steps: 281   lr:
6.4e-06   reward: 6.24
epis: 1895   score: 6.0   mem len: 442507   epsilon: 0.3218   steps: 355   lr:
6.4e-06   reward: 6.24
epis: 1896   score: 10.0   mem len: 443048   epsilon: 0.3208   steps: 541
lr: 6.4e-06   reward: 6.29
epis: 1897   score: 10.0   mem len: 443537   epsilon: 0.3198   steps: 489
lr: 6.4e-06   reward: 6.33
epis: 1898   score: 6.0   mem len: 443871   epsilon: 0.3191   steps: 334   lr:
6.4e-06   reward: 6.36
epis: 1899   score: 4.0   mem len: 444115   epsilon: 0.3187   steps: 244   lr:
6.4e-06   reward: 6.35
epis: 1900   score: 3.0   mem len: 444362   epsilon: 0.3182   steps: 247   lr:
6.4e-06   reward: 6.31
epis: 1901   score: 13.0   mem len: 444876   epsilon: 0.3171   steps: 514
lr: 6.4e-06   reward: 6.39
epis: 1902   score: 9.0   mem len: 445314   epsilon: 0.3163   steps: 438   lr:
6.4e-06   reward: 6.45
epis: 1903   score: 2.0   mem len: 445511   epsilon: 0.3159   steps: 197   lr:
6.4e-06   reward: 6.43
epis: 1904   score: 5.0   mem len: 445819   epsilon: 0.3153   steps: 308   lr:
6.4e-06   reward: 6.41
epis: 1905   score: 8.0   mem len: 446262   epsilon: 0.3144   steps: 443   lr:
6.4e-06   reward: 6.44
epis: 1906   score: 6.0   mem len: 446616   epsilon: 0.3137   steps: 354   lr:
6.4e-06   reward: 6.4
epis: 1907   score: 7.0   mem len: 446984   epsilon: 0.313   steps: 368   lr:
6.4e-06   reward: 6.4
epis: 1908   score: 5.0   mem len: 447276   epsilon: 0.3124   steps: 292   lr:
6.4e-06   reward: 6.36
epis: 1909   score: 13.0   mem len: 447896   epsilon: 0.3112   steps: 620
lr: 6.4e-06   reward: 6.45
epis: 1910   score: 7.0   mem len: 448296   epsilon: 0.3104   steps: 400   lr:
6.4e-06   reward: 6.49
epis: 1911   score: 7.0   mem len: 448686   epsilon: 0.3096   steps: 390   lr:
6.4e-06   reward: 6.48
epis: 1912   score: 4.0   mem len: 448946   epsilon: 0.3091   steps: 260   lr:
6.4e-06   reward: 6.48
epis: 1913   score: 4.0   mem len: 449221   epsilon: 0.3085   steps: 275   lr:

6.4e-06   reward: 6.46
epis: 1914   score: 4.0   mem len: 449481   epsilon: 0.308   steps: 260   lr:
6.4e-06   reward: 6.47
epis: 1915   score: 8.0   mem len: 449885   epsilon: 0.3072   steps: 404   lr:
6.4e-06   reward: 6.49
epis: 1916   score: 13.0   mem len: 450430   epsilon: 0.3061   steps: 545
lr: 6.4e-06   reward: 6.55
epis: 1917   score: 8.0   mem len: 450866   epsilon: 0.3053   steps: 436   lr:
6.4e-06   reward: 6.57
epis: 1918   score: 3.0   mem len: 451079   epsilon: 0.3049   steps: 213   lr:
6.4e-06   reward: 6.54
epis: 1919   score: 6.0   mem len: 451413   epsilon: 0.3042   steps: 334   lr:
6.4e-06   reward: 6.54
epis: 1920   score: 9.0   mem len: 451900   epsilon: 0.3032   steps: 487   lr:
6.4e-06   reward: 6.53
epis: 1921   score: 7.0   mem len: 452305   epsilon: 0.3024   steps: 405   lr:
6.4e-06   reward: 6.47
epis: 1922   score: 5.0   mem len: 452630   epsilon: 0.3018   steps: 325   lr:
6.4e-06   reward: 6.45
epis: 1923   score: 7.0   mem len: 453034   epsilon: 0.301   steps: 404   lr:
6.4e-06   reward: 6.45
epis: 1924   score: 9.0   mem len: 453511   epsilon: 0.3   steps: 477   lr:
6.4e-06   reward: 6.48
epis: 1925   score: 6.0   mem len: 453862   epsilon: 0.2994   steps: 351   lr:
6.4e-06   reward: 6.5
epis: 1926   score: 6.0   mem len: 454203   epsilon: 0.2987   steps: 341   lr:
6.4e-06   reward: 6.47
epis: 1927   score: 5.0   mem len: 454476   epsilon: 0.2981   steps: 273   lr:
6.4e-06   reward: 6.46
epis: 1928   score: 10.0   mem len: 454961   epsilon: 0.2972   steps: 485
lr: 6.4e-06   reward: 6.51
epis: 1929   score: 4.0   mem len: 455223   epsilon: 0.2967   steps: 262   lr:
6.4e-06   reward: 6.52
epis: 1930   score: 5.0   mem len: 455549   epsilon: 0.296   steps: 326   lr:
6.4e-06   reward: 6.51
epis: 1931   score: 8.0   mem len: 455985   epsilon: 0.2951   steps: 436   lr:
6.4e-06   reward: 6.54
epis: 1932   score: 9.0   mem len: 456417   epsilon: 0.2943   steps: 432   lr:
6.4e-06   reward: 6.59
epis: 1933   score: 5.0   mem len: 456707   epsilon: 0.2937   steps: 290   lr:
6.4e-06   reward: 6.61
epis: 1934   score: 4.0   mem len: 457004   epsilon: 0.2931   steps: 297   lr:
6.4e-06   reward: 6.59
epis: 1935   score: 4.0   mem len: 457297   epsilon: 0.2925   steps: 293   lr:
6.4e-06   reward: 6.57
epis: 1936   score: 7.0   mem len: 457685   epsilon: 0.2918   steps: 388   lr:
6.4e-06   reward: 6.57
epis: 1937   score: 4.0   mem len: 457943   epsilon: 0.2913   steps: 258   lr:

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6.4e-06     reward: 6.55
epis: 1938   score: 10.0   mem len: 458395   epsilon: 0.2904   steps: 452
lr: 6.4e-06     reward: 6.62
epis: 1939   score: 5.0   mem len: 458682   epsilon: 0.2898   steps: 287   lr:
6.4e-06     reward: 6.63
epis: 1940   score: 7.0   mem len: 459081   epsilon: 0.289   steps: 399   lr:
6.4e-06     reward: 6.59
epis: 1941   score: 4.0   mem len: 459376   epsilon: 0.2884   steps: 295   lr:
6.4e-06     reward: 6.58
epis: 1942   score: 6.0   mem len: 459731   epsilon: 0.2877   steps: 355   lr:
6.4e-06     reward: 6.58
epis: 1943   score: 10.0   mem len: 460271   epsilon: 0.2867   steps: 540
lr: 6.4e-06     reward: 6.62
epis: 1944   score: 4.0   mem len: 460552   epsilon: 0.2861   steps: 281   lr:
6.4e-06     reward: 6.58
epis: 1945   score: 7.0   mem len: 460957   epsilon: 0.2853   steps: 405   lr:
6.4e-06     reward: 6.59
epis: 1946   score: 4.0   mem len: 461215   epsilon: 0.2848   steps: 258   lr:
6.4e-06     reward: 6.54
epis: 1947   score: 10.0   mem len: 461727   epsilon: 0.2838   steps: 512
lr: 6.4e-06     reward: 6.56
epis: 1948   score: 4.0   mem len: 461966   epsilon: 0.2833   steps: 239   lr:
6.4e-06     reward: 6.5
epis: 1949   score: 3.0   mem len: 462176   epsilon: 0.2829   steps: 210   lr:
6.4e-06     reward: 6.45
epis: 1950   score: 4.0   mem len: 462435   epsilon: 0.2824   steps: 259   lr:
6.4e-06     reward: 6.43
epis: 1951   score: 5.0   mem len: 462728   epsilon: 0.2818   steps: 293   lr:
6.4e-06     reward: 6.44
epis: 1952   score: 6.0   mem len: 463049   epsilon: 0.2812   steps: 321   lr:
6.4e-06     reward: 6.42
epis: 1953   score: 4.0   mem len: 463311   epsilon: 0.2806   steps: 262   lr:
6.4e-06     reward: 6.43
epis: 1954   score: 12.0   mem len: 463757   epsilon: 0.2798   steps: 446
lr: 6.4e-06     reward: 6.47
epis: 1955   score: 10.0   mem len: 464260   epsilon: 0.2788   steps: 503
lr: 6.4e-06     reward: 6.48
epis: 1956   score: 7.0   mem len: 464645   epsilon: 0.278   steps: 385   lr:
6.4e-06     reward: 6.47
epis: 1957   score: 6.0   mem len: 465004   epsilon: 0.2773   steps: 359   lr:
6.4e-06     reward: 6.5
epis: 1958   score: 10.0   mem len: 465533   epsilon: 0.2762   steps: 529
lr: 6.4e-06     reward: 6.5
epis: 1959   score: 5.0   mem len: 465806   epsilon: 0.2757   steps: 273   lr:
6.4e-06     reward: 6.51
epis: 1960   score: 4.0   mem len: 466045   epsilon: 0.2752   steps: 239   lr:
6.4e-06     reward: 6.48
epis: 1961   score: 7.0   mem len: 466426   epsilon: 0.2745   steps: 381   lr:
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6.4e-06   reward: 6.52
epis: 1962   score: 7.0   mem len: 466789   epsilon: 0.2738   steps: 363   lr:
6.4e-06   reward: 6.53
epis: 1963   score: 4.0   mem len: 467088   epsilon: 0.2732   steps: 299   lr:
6.4e-06   reward: 6.53
epis: 1964   score: 8.0   mem len: 467529   epsilon: 0.2723   steps: 441   lr:
6.4e-06   reward: 6.5
epis: 1965   score: 5.0   mem len: 467823   epsilon: 0.2717   steps: 294   lr:
6.4e-06   reward: 6.48
epis: 1966   score: 10.0   mem len: 468316   epsilon: 0.2707   steps: 493
lr: 6.4e-06   reward: 6.53
epis: 1967   score: 5.0   mem len: 468645   epsilon: 0.2701   steps: 329   lr:
6.4e-06   reward: 6.54
epis: 1968   score: 5.0   mem len: 468971   epsilon: 0.2694   steps: 326   lr:
6.4e-06   reward: 6.54
epis: 1969   score: 9.0   mem len: 469436   epsilon: 0.2685   steps: 465   lr:
6.4e-06   reward: 6.53
epis: 1970   score: 6.0   mem len: 469789   epsilon: 0.2678   steps: 353   lr:
6.4e-06   reward: 6.54
epis: 1971   score: 6.0   mem len: 470137   epsilon: 0.2671   steps: 348   lr:
6.4e-06   reward: 6.55
epis: 1972   score: 5.0   mem len: 470462   epsilon: 0.2665   steps: 325   lr:
6.4e-06   reward: 6.52
epis: 1973   score: 8.0   mem len: 470875   epsilon: 0.2657   steps: 413   lr:
6.4e-06   reward: 6.56
epis: 1974   score: 6.0   mem len: 471195   epsilon: 0.265   steps: 320   lr:
6.4e-06   reward: 6.59
epis: 1975   score: 3.0   mem len: 471408   epsilon: 0.2646   steps: 213   lr:
6.4e-06   reward: 6.57
epis: 1976   score: 6.0   mem len: 471762   epsilon: 0.2639   steps: 354   lr:
6.4e-06   reward: 6.5
epis: 1977   score: 4.0   mem len: 472023   epsilon: 0.2634   steps: 261   lr:
6.4e-06   reward: 6.47
epis: 1978   score: 9.0   mem len: 472465   epsilon: 0.2625   steps: 442   lr:
6.4e-06   reward: 6.51
epis: 1979   score: 5.0   mem len: 472776   epsilon: 0.2619   steps: 311   lr:
6.4e-06   reward: 6.51
epis: 1980   score: 9.0   mem len: 473221   epsilon: 0.261   steps: 445   lr:
6.4e-06   reward: 6.57
epis: 1981   score: 6.0   mem len: 473527   epsilon: 0.2604   steps: 306   lr:
6.4e-06   reward: 6.58
epis: 1982   score: 4.0   mem len: 473801   epsilon: 0.2599   steps: 274   lr:
6.4e-06   reward: 6.55
epis: 1983   score: 12.0   mem len: 474380   epsilon: 0.2587   steps: 579
lr: 6.4e-06   reward: 6.59
epis: 1984   score: 11.0   mem len: 474900   epsilon: 0.2577   steps: 520
lr: 6.4e-06   reward: 6.62
epis: 1985   score: 9.0   mem len: 475239   epsilon: 0.257   steps: 339   lr:

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6.4e-06      reward: 6.67
epis: 1986    score: 7.0    mem len: 475621    epsilon: 0.2563    steps: 382    lr:
6.4e-06      reward: 6.64
epis: 1987    score: 6.0    mem len: 475956    epsilon: 0.2556    steps: 335    lr:
6.4e-06      reward: 6.66
epis: 1988    score: 8.0    mem len: 476407    epsilon: 0.2547    steps: 451    lr:
6.4e-06      reward: 6.62
epis: 1989    score: 8.0    mem len: 476857    epsilon: 0.2538    steps: 450    lr:
6.4e-06      reward: 6.64
epis: 1990    score: 7.0    mem len: 477258    epsilon: 0.253    steps: 401    lr:
6.4e-06      reward: 6.62
epis: 1991    score: 4.0    mem len: 477521    epsilon: 0.2525    steps: 263    lr:
6.4e-06      reward: 6.6
epis: 1992    score: 13.0    mem len: 478100    epsilon: 0.2514    steps: 579
lr: 6.4e-06      reward: 6.64
epis: 1993    score: 10.0    mem len: 478563    epsilon: 0.2504    steps: 463
lr: 6.4e-06      reward: 6.68
epis: 1994    score: 7.0    mem len: 478959    epsilon: 0.2497    steps: 396    lr:
6.4e-06      reward: 6.71
epis: 1995    score: 10.0    mem len: 479442    epsilon: 0.2487    steps: 483
lr: 6.4e-06      reward: 6.75
epis: 1996    score: 4.0    mem len: 479757    epsilon: 0.2481    steps: 315    lr:
6.4e-06      reward: 6.69
epis: 1997    score: 7.0    mem len: 480143    epsilon: 0.2473    steps: 386    lr:
6.4e-06      reward: 6.66
epis: 1998    score: 7.0    mem len: 480546    epsilon: 0.2465    steps: 403    lr:
6.4e-06      reward: 6.67
epis: 1999    score: 11.0    mem len: 481116    epsilon: 0.2454    steps: 570
lr: 6.4e-06      reward: 6.74
epis: 2000    score: 7.0    mem len: 481514    epsilon: 0.2446    steps: 398    lr:
6.4e-06      reward: 6.78
epis: 2001    score: 5.0    mem len: 481825    epsilon: 0.244    steps: 311    lr:
6.4e-06      reward: 6.7
epis: 2002    score: 5.0    mem len: 482134    epsilon: 0.2434    steps: 309    lr:
6.4e-06      reward: 6.66
epis: 2003    score: 6.0    mem len: 482493    epsilon: 0.2427    steps: 359    lr:
6.4e-06      reward: 6.7
epis: 2004    score: 8.0    mem len: 482810    epsilon: 0.242    steps: 317    lr:
6.4e-06      reward: 6.73
epis: 2005    score: 6.0    mem len: 483183    epsilon: 0.2413    steps: 373    lr:
6.4e-06      reward: 6.71
epis: 2006    score: 9.0    mem len: 483673    epsilon: 0.2403    steps: 490    lr:
6.4e-06      reward: 6.74
epis: 2007    score: 4.0    mem len: 483946    epsilon: 0.2398    steps: 273    lr:
6.4e-06      reward: 6.71
epis: 2008    score: 8.0    mem len: 484384    epsilon: 0.2389    steps: 438    lr:
6.4e-06      reward: 6.74
epis: 2009    score: 8.0    mem len: 484838    epsilon: 0.238    steps: 454    lr:
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6.4e-06   reward: 6.69
epis: 2010   score: 9.0   mem len: 485297   epsilon: 0.2371   steps: 459   lr:
6.4e-06   reward: 6.71
epis: 2011   score: 6.0   mem len: 485633   epsilon: 0.2364   steps: 336   lr:
6.4e-06   reward: 6.7
epis: 2012   score: 5.0   mem len: 485945   epsilon: 0.2358   steps: 312   lr:
6.4e-06   reward: 6.71
epis: 2013   score: 4.0   mem len: 486207   epsilon: 0.2353   steps: 262   lr:
6.4e-06   reward: 6.71
epis: 2014   score: 8.0   mem len: 486623   epsilon: 0.2345   steps: 416   lr:
6.4e-06   reward: 6.75
epis: 2015   score: 8.0   mem len: 487059   epsilon: 0.2336   steps: 436   lr:
6.4e-06   reward: 6.75
epis: 2016   score: 8.0   mem len: 487509   epsilon: 0.2327   steps: 450   lr:
6.4e-06   reward: 6.7
epis: 2017   score: 7.0   mem len: 487863   epsilon: 0.232   steps: 354   lr:
6.4e-06   reward: 6.69
epis: 2018   score: 10.0   mem len: 488360   epsilon: 0.231   steps: 497   lr:
6.4e-06   reward: 6.76
epis: 2019   score: 5.0   mem len: 488683   epsilon: 0.2304   steps: 323   lr:
6.4e-06   reward: 6.75
epis: 2020   score: 6.0   mem len: 489068   epsilon: 0.2296   steps: 385   lr:
6.4e-06   reward: 6.72
epis: 2021   score: 6.0   mem len: 489425   epsilon: 0.2289   steps: 357   lr:
6.4e-06   reward: 6.71
epis: 2022   score: 9.0   mem len: 489911   epsilon: 0.228   steps: 486   lr:
6.4e-06   reward: 6.75
epis: 2023   score: 5.0   mem len: 490238   epsilon: 0.2273   steps: 327   lr:
6.4e-06   reward: 6.73
epis: 2024   score: 5.0   mem len: 490565   epsilon: 0.2267   steps: 327   lr:
6.4e-06   reward: 6.69
epis: 2025   score: 6.0   mem len: 490901   epsilon: 0.226   steps: 336   lr:
6.4e-06   reward: 6.69
epis: 2026   score: 13.0   mem len: 491511   epsilon: 0.2248   steps: 610
lr: 6.4e-06   reward: 6.76
epis: 2027   score: 7.0   mem len: 491915   epsilon: 0.224   steps: 404   lr:
6.4e-06   reward: 6.78
epis: 2028   score: 5.0   mem len: 492258   epsilon: 0.2233   steps: 343   lr:
6.4e-06   reward: 6.73
epis: 2029   score: 6.0   mem len: 492629   epsilon: 0.2226   steps: 371   lr:
6.4e-06   reward: 6.75
epis: 2030   score: 9.0   mem len: 493135   epsilon: 0.2216   steps: 506   lr:
6.4e-06   reward: 6.79
epis: 2031   score: 6.0   mem len: 493503   epsilon: 0.2209   steps: 368   lr:
6.4e-06   reward: 6.77
epis: 2032   score: 5.0   mem len: 493852   epsilon: 0.2202   steps: 349   lr:
6.4e-06   reward: 6.73
epis: 2033   score: 5.0   mem len: 494126   epsilon: 0.2196   steps: 274   lr:

6.4e-06   reward: 6.73
epis: 2034   score: 14.0   mem len: 494597   epsilon: 0.2187   steps: 471
lr: 6.4e-06   reward: 6.83
epis: 2035   score: 7.0   mem len: 494982   epsilon: 0.2179   steps: 385   lr:
6.4e-06   reward: 6.86
epis: 2036   score: 5.0   mem len: 495287   epsilon: 0.2173   steps: 305   lr:
6.4e-06   reward: 6.84
epis: 2037   score: 6.0   mem len: 495665   epsilon: 0.2166   steps: 378   lr:
6.4e-06   reward: 6.86
epis: 2038   score: 12.0   mem len: 496119   epsilon: 0.2157   steps: 454
lr: 6.4e-06   reward: 6.88
epis: 2039   score: 11.0   mem len: 496685   epsilon: 0.2146   steps: 566
lr: 6.4e-06   reward: 6.94
epis: 2040   score: 9.0   mem len: 497143   epsilon: 0.2137   steps: 458   lr:
6.4e-06   reward: 6.96
epis: 2041   score: 8.0   mem len: 497596   epsilon: 0.2128   steps: 453   lr:
6.4e-06   reward: 7.0
epis: 2042   score: 8.0   mem len: 497893   epsilon: 0.2122   steps: 297   lr:
6.4e-06   reward: 7.02
epis: 2043   score: 9.0   mem len: 498348   epsilon: 0.2113   steps: 455   lr:
6.4e-06   reward: 7.01
epis: 2044   score: 5.0   mem len: 498654   epsilon: 0.2107   steps: 306   lr:
6.4e-06   reward: 7.02
epis: 2045   score: 4.0   mem len: 498893   epsilon: 0.2102   steps: 239   lr:
6.4e-06   reward: 6.99
epis: 2046   score: 7.0   mem len: 499303   epsilon: 0.2094   steps: 410   lr:
6.4e-06   reward: 7.02
epis: 2047   score: 9.0   mem len: 499756   epsilon: 0.2085   steps: 453   lr:
6.4e-06   reward: 7.01
epis: 2048   score: 4.0   mem len: 500037   epsilon: 0.2079   steps: 281   lr:
2.6e-06   reward: 7.01
epis: 2049   score: 10.0   mem len: 500548   epsilon: 0.2069   steps: 511
lr: 2.6e-06   reward: 7.08
epis: 2050   score: 9.0   mem len: 501015   epsilon: 0.206   steps: 467   lr:
2.6e-06   reward: 7.13
epis: 2051   score: 7.0   mem len: 501421   epsilon: 0.2052   steps: 406   lr:
2.6e-06   reward: 7.15
epis: 2052   score: 10.0   mem len: 501947   epsilon: 0.2041   steps: 526
lr: 2.6e-06   reward: 7.19
epis: 2053   score: 7.0   mem len: 502328   epsilon: 0.2034   steps: 381   lr:
2.6e-06   reward: 7.22
epis: 2054   score: 8.0   mem len: 502758   epsilon: 0.2025   steps: 430   lr:
2.6e-06   reward: 7.18
epis: 2055   score: 8.0   mem len: 503182   epsilon: 0.2017   steps: 424   lr:
2.6e-06   reward: 7.16
epis: 2056   score: 10.0   mem len: 503668   epsilon: 0.2007   steps: 486
lr: 2.6e-06   reward: 7.19
epis: 2057   score: 5.0   mem len: 503955   epsilon: 0.2002   steps: 287   lr:

2.6e-06   reward: 7.18
epis: 2058   score: 4.0   mem len: 504230   epsilon: 0.1996   steps: 275   lr:
2.6e-06   reward: 7.12
epis: 2059   score: 9.0   mem len: 504709   epsilon: 0.1987   steps: 479   lr:
2.6e-06   reward: 7.16
epis: 2060   score: 6.0   mem len: 505045   epsilon: 0.198   steps: 336   lr:
2.6e-06   reward: 7.18
epis: 2061   score: 11.0   mem len: 505560   epsilon: 0.197   steps: 515   lr:
2.6e-06   reward: 7.22
epis: 2062   score: 8.0   mem len: 506012   epsilon: 0.1961   steps: 452   lr:
2.6e-06   reward: 7.23
epis: 2063   score: 6.0   mem len: 506362   epsilon: 0.1954   steps: 350   lr:
2.6e-06   reward: 7.25
epis: 2064   score: 10.0   mem len: 506757   epsilon: 0.1946   steps: 395
lr: 2.6e-06   reward: 7.27
epis: 2065   score: 9.0   mem len: 507278   epsilon: 0.1936   steps: 521   lr:
2.6e-06   reward: 7.31
epis: 2066   score: 10.0   mem len: 507801   epsilon: 0.1926   steps: 523
lr: 2.6e-06   reward: 7.31
epis: 2067   score: 6.0   mem len: 508159   epsilon: 0.1918   steps: 358   lr:
2.6e-06   reward: 7.32
epis: 2068   score: 6.0   mem len: 508498   epsilon: 0.1912   steps: 339   lr:
2.6e-06   reward: 7.33
epis: 2069   score: 7.0   mem len: 508900   epsilon: 0.1904   steps: 402   lr:
2.6e-06   reward: 7.31
epis: 2070   score: 3.0   mem len: 509131   epsilon: 0.1899   steps: 231   lr:
2.6e-06   reward: 7.28
epis: 2071   score: 7.0   mem len: 509516   epsilon: 0.1892   steps: 385   lr:
2.6e-06   reward: 7.29
epis: 2072   score: 10.0   mem len: 510042   epsilon: 0.1881   steps: 526
lr: 2.6e-06   reward: 7.34
epis: 2073   score: 5.0   mem len: 510329   epsilon: 0.1875   steps: 287   lr:
2.6e-06   reward: 7.31
epis: 2074   score: 10.0   mem len: 510824   epsilon: 0.1866   steps: 495
lr: 2.6e-06   reward: 7.35
epis: 2075   score: 7.0   mem len: 511202   epsilon: 0.1858   steps: 378   lr:
2.6e-06   reward: 7.39
epis: 2076   score: 5.0   mem len: 511509   epsilon: 0.1852   steps: 307   lr:
2.6e-06   reward: 7.38
epis: 2077   score: 6.0   mem len: 511832   epsilon: 0.1846   steps: 323   lr:
2.6e-06   reward: 7.4
epis: 2078   score: 10.0   mem len: 512328   epsilon: 0.1836   steps: 496
lr: 2.6e-06   reward: 7.41
epis: 2079   score: 8.0   mem len: 512795   epsilon: 0.1827   steps: 467   lr:
2.6e-06   reward: 7.44
epis: 2080   score: 5.0   mem len: 513107   epsilon: 0.182   steps: 312   lr:
2.6e-06   reward: 7.4
epis: 2081   score: 8.0   mem len: 513516   epsilon: 0.1812   steps: 409   lr:

2.6e-06   reward: 7.42
epis: 2082   score: 11.0   mem len: 514108   epsilon: 0.1801   steps: 592
lr: 2.6e-06   reward: 7.49
epis: 2083   score: 11.0   mem len: 514529   epsilon: 0.1792   steps: 421
lr: 2.6e-06   reward: 7.48
epis: 2084   score: 6.0   mem len: 514899   epsilon: 0.1785   steps: 370   lr:
2.6e-06   reward: 7.43
epis: 2085   score: 7.0   mem len: 515322   epsilon: 0.1777   steps: 423   lr:
2.6e-06   reward: 7.41
epis: 2086   score: 11.0   mem len: 515910   epsilon: 0.1765   steps: 588
lr: 2.6e-06   reward: 7.45
epis: 2087   score: 6.0   mem len: 516263   epsilon: 0.1758   steps: 353   lr:
2.6e-06   reward: 7.45
epis: 2088   score: 10.0   mem len: 516754   epsilon: 0.1748   steps: 491
lr: 2.6e-06   reward: 7.47
epis: 2089   score: 5.0   mem len: 517098   epsilon: 0.1741   steps: 344   lr:
2.6e-06   reward: 7.44
epis: 2090   score: 9.0   mem len: 517539   epsilon: 0.1733   steps: 441   lr:
2.6e-06   reward: 7.46
epis: 2091   score: 3.0   mem len: 517750   epsilon: 0.1729   steps: 211   lr:
2.6e-06   reward: 7.45
epis: 2092   score: 9.0   mem len: 518228   epsilon: 0.1719   steps: 478   lr:
2.6e-06   reward: 7.41
epis: 2093   score: 3.0   mem len: 518441   epsilon: 0.1715   steps: 213   lr:
2.6e-06   reward: 7.34
epis: 2094   score: 6.0   mem len: 518761   epsilon: 0.1709   steps: 320   lr:
2.6e-06   reward: 7.33
epis: 2095   score: 7.0   mem len: 519166   epsilon: 0.17   steps: 405   lr:
2.6e-06   reward: 7.3
epis: 2096   score: 4.0   mem len: 519408   epsilon: 0.1696   steps: 242   lr:
2.6e-06   reward: 7.3
epis: 2097   score: 5.0   mem len: 519699   epsilon: 0.169   steps: 291   lr:
2.6e-06   reward: 7.28
epis: 2098   score: 6.0   mem len: 520052   epsilon: 0.1683   steps: 353   lr:
2.6e-06   reward: 7.27
epis: 2099   score: 7.0   mem len: 520426   epsilon: 0.1676   steps: 374   lr:
2.6e-06   reward: 7.23
epis: 2100   score: 8.0   mem len: 520864   epsilon: 0.1667   steps: 438   lr:
2.6e-06   reward: 7.24
epis: 2101   score: 6.0   mem len: 521222   epsilon: 0.166   steps: 358   lr:
2.6e-06   reward: 7.25
epis: 2102   score: 9.0   mem len: 521695   epsilon: 0.165   steps: 473   lr:
2.6e-06   reward: 7.29
epis: 2103   score: 8.0   mem len: 522152   epsilon: 0.1641   steps: 457   lr:
2.6e-06   reward: 7.31
epis: 2104   score: 5.0   mem len: 522444   epsilon: 0.1636   steps: 292   lr:
2.6e-06   reward: 7.28
epis: 2105   score: 9.0   mem len: 522882   epsilon: 0.1627   steps: 438   lr:

2.6e-06   reward: 7.31
epis: 2106   score: 8.0   mem len: 523281   epsilon: 0.1619   steps: 399   lr:
2.6e-06   reward: 7.3
epis: 2107   score: 10.0   mem len: 523809   epsilon: 0.1609   steps: 528
lr: 2.6e-06   reward: 7.36
epis: 2108   score: 8.0   mem len: 524214   epsilon: 0.1601   steps: 405   lr:
2.6e-06   reward: 7.36
epis: 2109   score: 4.0   mem len: 524473   epsilon: 0.1595   steps: 259   lr:
2.6e-06   reward: 7.32
epis: 2110   score: 6.0   mem len: 524798   epsilon: 0.1589   steps: 325   lr:
2.6e-06   reward: 7.29
epis: 2111   score: 8.0   mem len: 525076   epsilon: 0.1583   steps: 278   lr:
2.6e-06   reward: 7.31
epis: 2112   score: 6.0   mem len: 525446   epsilon: 0.1576   steps: 370   lr:
2.6e-06   reward: 7.32
epis: 2113   score: 5.0   mem len: 525753   epsilon: 0.157   steps: 307   lr:
2.6e-06   reward: 7.33
epis: 2114   score: 9.0   mem len: 526205   epsilon: 0.1561   steps: 452   lr:
2.6e-06   reward: 7.34
epis: 2115   score: 5.0   mem len: 526492   epsilon: 0.1555   steps: 287   lr:
2.6e-06   reward: 7.31
epis: 2116   score: 9.0   mem len: 526954   epsilon: 0.1546   steps: 462   lr:
2.6e-06   reward: 7.32
epis: 2117   score: 10.0   mem len: 527433   epsilon: 0.1537   steps: 479
lr: 2.6e-06   reward: 7.35
epis: 2118   score: 9.0   mem len: 527900   epsilon: 0.1528   steps: 467   lr:
2.6e-06   reward: 7.34
epis: 2119   score: 8.0   mem len: 528302   epsilon: 0.152   steps: 402   lr:
2.6e-06   reward: 7.37
epis: 2120   score: 8.0   mem len: 528714   epsilon: 0.1511   steps: 412   lr:
2.6e-06   reward: 7.39
epis: 2121   score: 11.0   mem len: 529261   epsilon: 0.1501   steps: 547
lr: 2.6e-06   reward: 7.44
epis: 2122   score: 7.0   mem len: 529645   epsilon: 0.1493   steps: 384   lr:
2.6e-06   reward: 7.42
epis: 2123   score: 9.0   mem len: 530068   epsilon: 0.1485   steps: 423   lr:
2.6e-06   reward: 7.46
epis: 2124   score: 4.0   mem len: 530342   epsilon: 0.1479   steps: 274   lr:
2.6e-06   reward: 7.45
epis: 2125   score: 9.0   mem len: 530793   epsilon: 0.147   steps: 451   lr:
2.6e-06   reward: 7.48
epis: 2126   score: 12.0   mem len: 531216   epsilon: 0.1462   steps: 423
lr: 2.6e-06   reward: 7.47
epis: 2127   score: 4.0   mem len: 531492   epsilon: 0.1456   steps: 276   lr:
2.6e-06   reward: 7.44
epis: 2128   score: 9.0   mem len: 531983   epsilon: 0.1447   steps: 491   lr:
2.6e-06   reward: 7.48
epis: 2129   score: 9.0   mem len: 532454   epsilon: 0.1437   steps: 471   lr:

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2.6e-06      reward: 7.51
epis: 2130    score: 6.0    mem len: 532791    epsilon: 0.1431    steps: 337    lr:
2.6e-06      reward: 7.48
epis: 2131    score: 7.0    mem len: 533199    epsilon: 0.1423    steps: 408    lr:
2.6e-06      reward: 7.49
epis: 2132    score: 9.0    mem len: 533630    epsilon: 0.1414    steps: 431    lr:
2.6e-06      reward: 7.53
epis: 2133    score: 8.0    mem len: 534070    epsilon: 0.1405    steps: 440    lr:
2.6e-06      reward: 7.56
epis: 2134    score: 8.0    mem len: 534540    epsilon: 0.1396    steps: 470    lr:
2.6e-06      reward: 7.5
epis: 2135    score: 11.0    mem len: 535076    epsilon: 0.1385    steps: 536
lr: 2.6e-06      reward: 7.54
epis: 2136    score: 9.0    mem len: 535545    epsilon: 0.1376    steps: 469    lr:
2.6e-06      reward: 7.58
epis: 2137    score: 11.0    mem len: 536072    epsilon: 0.1366    steps: 527
lr: 2.6e-06      reward: 7.63
epis: 2138    score: 6.0    mem len: 536425    epsilon: 0.1359    steps: 353    lr:
2.6e-06      reward: 7.57
epis: 2139    score: 9.0    mem len: 536864    epsilon: 0.135    steps: 439    lr:
2.6e-06      reward: 7.55
epis: 2140    score: 8.0    mem len: 537232    epsilon: 0.1343    steps: 368    lr:
2.6e-06      reward: 7.54
epis: 2141    score: 7.0    mem len: 537620    epsilon: 0.1335    steps: 388    lr:
2.6e-06      reward: 7.53
epis: 2142    score: 3.0    mem len: 537852    epsilon: 0.1331    steps: 232    lr:
2.6e-06      reward: 7.48
epis: 2143    score: 8.0    mem len: 538285    epsilon: 0.1322    steps: 433    lr:
2.6e-06      reward: 7.47
epis: 2144    score: 10.0    mem len: 538789    epsilon: 0.1312    steps: 504
lr: 2.6e-06      reward: 7.52
epis: 2145    score: 5.0    mem len: 539079    epsilon: 0.1306    steps: 290    lr:
2.6e-06      reward: 7.53
epis: 2146    score: 5.0    mem len: 539405    epsilon: 0.13    steps: 326    lr:
2.6e-06      reward: 7.51
epis: 2147    score: 9.0    mem len: 539837    epsilon: 0.1291    steps: 432    lr:
2.6e-06      reward: 7.51
epis: 2148    score: 9.0    mem len: 540312    epsilon: 0.1282    steps: 475    lr:
2.6e-06      reward: 7.56
epis: 2149    score: 6.0    mem len: 540654    epsilon: 0.1275    steps: 342    lr:
2.6e-06      reward: 7.52
epis: 2150    score: 8.0    mem len: 541073    epsilon: 0.1267    steps: 419    lr:
2.6e-06      reward: 7.51
epis: 2151    score: 6.0    mem len: 541430    epsilon: 0.126    steps: 357    lr:
2.6e-06      reward: 7.5
epis: 2152    score: 6.0    mem len: 541740    epsilon: 0.1254    steps: 310    lr:
2.6e-06      reward: 7.46
epis: 2153    score: 7.0    mem len: 542112    epsilon: 0.1246    steps: 372    lr:
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2.6e-06    reward: 7.46
epis: 2154   score: 4.0   mem len: 542374   epsilon: 0.1241   steps: 262   lr:
2.6e-06    reward: 7.42
epis: 2155   score: 8.0   mem len: 542779   epsilon: 0.1233   steps: 405   lr:
2.6e-06    reward: 7.42
epis: 2156   score: 8.0   mem len: 543076   epsilon: 0.1227   steps: 297   lr:
2.6e-06    reward: 7.4
epis: 2157   score: 11.0   mem len: 543626   epsilon: 0.1216   steps: 550
lr: 2.6e-06     reward: 7.46
epis: 2158   score: 9.0   mem len: 544098   epsilon: 0.1207   steps: 472   lr:
2.6e-06    reward: 7.51
epis: 2159   score: 6.0   mem len: 544435   epsilon: 0.12   steps: 337   lr:
2.6e-06    reward: 7.48
epis: 2160   score: 8.0   mem len: 544873   epsilon: 0.1191   steps: 438   lr:
2.6e-06    reward: 7.5
epis: 2161   score: 9.0   mem len: 545328   epsilon: 0.1182   steps: 455   lr:
2.6e-06    reward: 7.48
epis: 2162   score: 20.0   mem len: 545960   epsilon: 0.117   steps: 632   lr:
2.6e-06    reward: 7.6
epis: 2163   score: 11.0   mem len: 546449   epsilon: 0.116   steps: 489   lr:
2.6e-06    reward: 7.65
epis: 2164   score: 10.0   mem len: 546985   epsilon: 0.115   steps: 536   lr:
2.6e-06    reward: 7.65
epis: 2165   score: 11.0   mem len: 547491   epsilon: 0.114   steps: 506   lr:
2.6e-06    reward: 7.67
epis: 2166   score: 9.0   mem len: 547941   epsilon: 0.1131   steps: 450   lr:
2.6e-06    reward: 7.66
epis: 2167   score: 3.0   mem len: 548154   epsilon: 0.1127   steps: 213   lr:
2.6e-06    reward: 7.63
epis: 2168   score: 4.0   mem len: 548410   epsilon: 0.1121   steps: 256   lr:
2.6e-06    reward: 7.61
epis: 2169   score: 5.0   mem len: 548696   epsilon: 0.1116   steps: 286   lr:
2.6e-06    reward: 7.59
epis: 2170   score: 6.0   mem len: 549051   epsilon: 0.1109   steps: 355   lr:
2.6e-06    reward: 7.62
epis: 2171   score: 5.0   mem len: 549359   epsilon: 0.1103   steps: 308   lr:
2.6e-06    reward: 7.6
epis: 2172   score: 4.0   mem len: 549636   epsilon: 0.1097   steps: 277   lr:
2.6e-06    reward: 7.54
epis: 2173   score: 9.0   mem len: 550107   epsilon: 0.1088   steps: 471   lr:
2.6e-06    reward: 7.58
epis: 2174   score: 11.0   mem len: 550504   epsilon: 0.108   steps: 397   lr:
2.6e-06    reward: 7.59
epis: 2175   score: 3.0   mem len: 550735   epsilon: 0.1075   steps: 231   lr:
2.6e-06    reward: 7.55
epis: 2176   score: 7.0   mem len: 551143   epsilon: 0.1067   steps: 408   lr:
2.6e-06    reward: 7.57
epis: 2177   score: 6.0   mem len: 551513   epsilon: 0.106   steps: 370   lr:
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2.6e-06   reward: 7.57
epis: 2178   score: 6.0   mem len: 551874   epsilon: 0.1053   steps: 361   lr:
2.6e-06   reward: 7.53
epis: 2179   score: 6.0   mem len: 552211   epsilon: 0.1046   steps: 337   lr:
2.6e-06   reward: 7.51
epis: 2180   score: 9.0   mem len: 552706   epsilon: 0.1036   steps: 495   lr:
2.6e-06   reward: 7.55
epis: 2181   score: 10.0   mem len: 553203   epsilon: 0.1027   steps: 497
lr: 2.6e-06   reward: 7.57
epis: 2182   score: 11.0   mem len: 553756   epsilon: 0.1016   steps: 553
lr: 2.6e-06   reward: 7.57
epis: 2183   score: 5.0   mem len: 554047   epsilon: 0.101   steps: 291   lr:
2.6e-06   reward: 7.51
epis: 2184   score: 5.0   mem len: 554359   epsilon: 0.1004   steps: 312   lr:
2.6e-06   reward: 7.5
epis: 2185   score: 13.0   mem len: 554881   epsilon: 0.0993   steps: 522
lr: 2.6e-06   reward: 7.56
epis: 2186   score: 8.0   mem len: 555319   epsilon: 0.0985   steps: 438   lr:
2.6e-06   reward: 7.53
epis: 2187   score: 10.0   mem len: 555826   epsilon: 0.0975   steps: 507
lr: 2.6e-06   reward: 7.57
epis: 2188   score: 3.0   mem len: 556058   epsilon: 0.097   steps: 232   lr:
2.6e-06   reward: 7.5
epis: 2189   score: 7.0   mem len: 556418   epsilon: 0.0963   steps: 360   lr:
2.6e-06   reward: 7.52
epis: 2190   score: 6.0   mem len: 556761   epsilon: 0.0956   steps: 343   lr:
2.6e-06   reward: 7.49
epis: 2191   score: 15.0   mem len: 557359   epsilon: 0.0944   steps: 598
lr: 2.6e-06   reward: 7.61
epis: 2192   score: 10.0   mem len: 557832   epsilon: 0.0935   steps: 473
lr: 2.6e-06   reward: 7.62
epis: 2193   score: 6.0   mem len: 558186   epsilon: 0.0928   steps: 354   lr:
2.6e-06   reward: 7.65
epis: 2194   score: 8.0   mem len: 558614   epsilon: 0.0919   steps: 428   lr:
2.6e-06   reward: 7.67
epis: 2195   score: 6.0   mem len: 558975   epsilon: 0.0912   steps: 361   lr:
2.6e-06   reward: 7.66
epis: 2196   score: 8.0   mem len: 559371   epsilon: 0.0904   steps: 396   lr:
2.6e-06   reward: 7.7
epis: 2197   score: 6.0   mem len: 559725   epsilon: 0.0897   steps: 354   lr:
2.6e-06   reward: 7.71
epis: 2198   score: 4.0   mem len: 560004   epsilon: 0.0892   steps: 279   lr:
2.6e-06   reward: 7.69
epis: 2199   score: 3.0   mem len: 560217   epsilon: 0.0888   steps: 213   lr:
2.6e-06   reward: 7.65
epis: 2200   score: 6.0   mem len: 560591   epsilon: 0.088   steps: 374   lr:
2.6e-06   reward: 7.63
epis: 2201   score: 6.0   mem len: 560950   epsilon: 0.0873   steps: 359   lr:

2.6e-06   reward: 7.63
epis: 2202   score: 9.0   mem len: 561418   epsilon: 0.0864   steps: 468   lr:
2.6e-06   reward: 7.63
epis: 2203   score: 6.0   mem len: 561755   epsilon: 0.0857   steps: 337   lr:
2.6e-06   reward: 7.61
epis: 2204   score: 10.0   mem len: 562251   epsilon: 0.0847   steps: 496
lr: 2.6e-06   reward: 7.66
epis: 2205   score: 8.0   mem len: 562688   epsilon: 0.0839   steps: 437   lr:
2.6e-06   reward: 7.65
epis: 2206   score: 11.0   mem len: 563184   epsilon: 0.0829   steps: 496
lr: 2.6e-06   reward: 7.68
epis: 2207   score: 11.0   mem len: 563722   epsilon: 0.0818   steps: 538
lr: 2.6e-06   reward: 7.69
epis: 2208   score: 9.0   mem len: 564197   epsilon: 0.0809   steps: 475   lr:
2.6e-06   reward: 7.7
epis: 2209   score: 4.0   mem len: 564457   epsilon: 0.0804   steps: 260   lr:
2.6e-06   reward: 7.7
epis: 2210   score: 5.0   mem len: 564770   epsilon: 0.0798   steps: 313   lr:
2.6e-06   reward: 7.69
epis: 2211   score: 19.0   mem len: 565308   epsilon: 0.0787   steps: 538
lr: 2.6e-06   reward: 7.8
epis: 2212   score: 9.0   mem len: 565808   epsilon: 0.0777   steps: 500   lr:
2.6e-06   reward: 7.83
epis: 2213   score: 6.0   mem len: 566170   epsilon: 0.077   steps: 362   lr:
2.6e-06   reward: 7.84
epis: 2214   score: 8.0   mem len: 566565   epsilon: 0.0762   steps: 395   lr:
2.6e-06   reward: 7.83
epis: 2215   score: 9.0   mem len: 567017   epsilon: 0.0753   steps: 452   lr:
2.6e-06   reward: 7.87
epis: 2216   score: 9.0   mem len: 567494   epsilon: 0.0744   steps: 477   lr:
2.6e-06   reward: 7.87
epis: 2217   score: 7.0   mem len: 567900   epsilon: 0.0736   steps: 406   lr:
2.6e-06   reward: 7.84
epis: 2218   score: 9.0   mem len: 568386   epsilon: 0.0726   steps: 486   lr:
2.6e-06   reward: 7.84
epis: 2219   score: 4.0   mem len: 568644   epsilon: 0.0721   steps: 258   lr:
2.6e-06   reward: 7.8
epis: 2220   score: 6.0   mem len: 568986   epsilon: 0.0714   steps: 342   lr:
2.6e-06   reward: 7.78
epis: 2221   score: 7.0   mem len: 569352   epsilon: 0.0707   steps: 366   lr:
2.6e-06   reward: 7.74
epis: 2222   score: 6.0   mem len: 569727   epsilon: 0.0699   steps: 375   lr:
2.6e-06   reward: 7.73
epis: 2223   score: 9.0   mem len: 570229   epsilon: 0.0689   steps: 502   lr:
2.6e-06   reward: 7.73
epis: 2224   score: 8.0   mem len: 570618   epsilon: 0.0682   steps: 389   lr:
2.6e-06   reward: 7.77
epis: 2225   score: 9.0   mem len: 571103   epsilon: 0.0672   steps: 485   lr:

2.6e-06   reward: 7.77
epis: 2226   score: 6.0   mem len: 571481   epsilon: 0.0665   steps: 378   lr:
2.6e-06   reward: 7.71
epis: 2227   score: 4.0   mem len: 571742   epsilon: 0.0659   steps: 261   lr:
2.6e-06   reward: 7.71
epis: 2228   score: 13.0   mem len: 572359   epsilon: 0.0647   steps: 617
lr: 2.6e-06   reward: 7.75
epis: 2229   score: 6.0   mem len: 572713   epsilon: 0.064   steps: 354   lr:
2.6e-06   reward: 7.72
epis: 2230   score: 7.0   mem len: 573114   epsilon: 0.0632   steps: 401   lr:
2.6e-06   reward: 7.73
epis: 2231   score: 4.0   mem len: 573375   epsilon: 0.0627   steps: 261   lr:
2.6e-06   reward: 7.7
epis: 2232   score: 9.0   mem len: 573789   epsilon: 0.0619   steps: 414   lr:
2.6e-06   reward: 7.7
epis: 2233   score: 5.0   mem len: 574102   epsilon: 0.0613   steps: 313   lr:
2.6e-06   reward: 7.67
epis: 2234   score: 7.0   mem len: 574459   epsilon: 0.0606   steps: 357   lr:
2.6e-06   reward: 7.66
epis: 2235   score: 8.0   mem len: 574911   epsilon: 0.0597   steps: 452   lr:
2.6e-06   reward: 7.63
epis: 2236   score: 12.0   mem len: 575458   epsilon: 0.0586   steps: 547
lr: 2.6e-06   reward: 7.66
epis: 2237   score: 11.0   mem len: 575968   epsilon: 0.0576   steps: 510
lr: 2.6e-06   reward: 7.66
epis: 2238   score: 9.0   mem len: 576406   epsilon: 0.0567   steps: 438   lr:
2.6e-06   reward: 7.69
epis: 2239   score: 3.0   mem len: 576638   epsilon: 0.0563   steps: 232   lr:
2.6e-06   reward: 7.63
epis: 2240   score: 10.0   mem len: 577099   epsilon: 0.0553   steps: 461
lr: 2.6e-06   reward: 7.65
epis: 2241   score: 6.0   mem len: 577479   epsilon: 0.0546   steps: 380   lr:
2.6e-06   reward: 7.64
epis: 2242   score: 12.0   mem len: 578036   epsilon: 0.0535   steps: 557
lr: 2.6e-06   reward: 7.73
epis: 2243   score: 10.0   mem len: 578557   epsilon: 0.0525   steps: 521
lr: 2.6e-06   reward: 7.75
epis: 2244   score: 7.0   mem len: 578898   epsilon: 0.0518   steps: 341   lr:
2.6e-06   reward: 7.72
epis: 2245   score: 4.0   mem len: 579179   epsilon: 0.0512   steps: 281   lr:
2.6e-06   reward: 7.71
epis: 2246   score: 5.0   mem len: 579468   epsilon: 0.0507   steps: 289   lr:
2.6e-06   reward: 7.71
epis: 2247   score: 7.0   mem len: 579859   epsilon: 0.0499   steps: 391   lr:
2.6e-06   reward: 7.69
epis: 2248   score: 9.0   mem len: 580330   epsilon: 0.0489   steps: 471   lr:
2.6e-06   reward: 7.69
epis: 2249   score: 7.0   mem len: 580727   epsilon: 0.0482   steps: 397   lr:

2.6e-06   reward: 7.7

epis: 2250   score: 3.0   mem len: 580959   epsilon: 0.0477   steps: 232   lr:
2.6e-06   reward: 7.65

epis: 2251   score: 7.0   mem len: 581360   epsilon: 0.0469   steps: 401   lr:
2.6e-06   reward: 7.66

epis: 2252   score: 6.0   mem len: 581700   epsilon: 0.0462   steps: 340   lr:
2.6e-06   reward: 7.66

epis: 2253   score: 11.0   mem len: 582193   epsilon: 0.0453   steps: 493
lr: 2.6e-06   reward: 7.7

epis: 2254   score: 10.0   mem len: 582696   epsilon: 0.0443   steps: 503
lr: 2.6e-06   reward: 7.76

epis: 2255   score: 14.0   mem len: 583272   epsilon: 0.0431   steps: 576
lr: 2.6e-06   reward: 7.82

epis: 2256   score: 7.0   mem len: 583641   epsilon: 0.0424   steps: 369   lr:
2.6e-06   reward: 7.81

epis: 2257   score: 9.0   mem len: 584112   epsilon: 0.0415   steps: 471   lr:
2.6e-06   reward: 7.79

epis: 2258   score: 12.0   mem len: 584554   epsilon: 0.0406   steps: 442
lr: 2.6e-06   reward: 7.82

epis: 2259   score: 6.0   mem len: 584911   epsilon: 0.0399   steps: 357   lr:
2.6e-06   reward: 7.82

epis: 2260   score: 11.0   mem len: 585448   epsilon: 0.0388   steps: 537
lr: 2.6e-06   reward: 7.85

epis: 2261   score: 9.0   mem len: 585888   epsilon: 0.0379   steps: 440   lr:
2.6e-06   reward: 7.85

epis: 2262   score: 5.0   mem len: 586214   epsilon: 0.0373   steps: 326   lr:
2.6e-06   reward: 7.7

epis: 2263   score: 7.0   mem len: 586605   epsilon: 0.0365   steps: 391   lr:
2.6e-06   reward: 7.66

epis: 2264   score: 7.0   mem len: 587013   epsilon: 0.0357   steps: 408   lr:
2.6e-06   reward: 7.63

epis: 2265   score: 11.0   mem len: 587555   epsilon: 0.0346   steps: 542
lr: 2.6e-06   reward: 7.63

epis: 2266   score: 9.0   mem len: 587969   epsilon: 0.0338   steps: 414   lr:
2.6e-06   reward: 7.63

epis: 2267   score: 6.0   mem len: 588279   epsilon: 0.0332   steps: 310   lr:
2.6e-06   reward: 7.66

epis: 2268   score: 7.0   mem len: 588681   epsilon: 0.0324   steps: 402   lr:
2.6e-06   reward: 7.69

epis: 2269   score: 11.0   mem len: 589199   epsilon: 0.0314   steps: 518
lr: 2.6e-06   reward: 7.75

epis: 2270   score: 5.0   mem len: 589490   epsilon: 0.0308   steps: 291   lr:
2.6e-06   reward: 7.74

epis: 2271   score: 10.0   mem len: 589963   epsilon: 0.0299   steps: 473
lr: 2.6e-06   reward: 7.79

epis: 2272   score: 10.0   mem len: 590428   epsilon: 0.029   steps: 465   lr:
2.6e-06   reward: 7.85

epis: 2273   score: 6.0   mem len: 590776   epsilon: 0.0283   steps: 348   lr:

2.6e-06   reward: 7.82
epis: 2274   score: 14.0   mem len: 591252   epsilon: 0.0273   steps: 476
lr: 2.6e-06   reward: 7.85
epis: 2275   score: 7.0   mem len: 591645   epsilon: 0.0265   steps: 393   lr:
2.6e-06   reward: 7.89
epis: 2276   score: 5.0   mem len: 591951   epsilon: 0.0259   steps: 306   lr:
2.6e-06   reward: 7.87
epis: 2277   score: 4.0   mem len: 592211   epsilon: 0.0254   steps: 260   lr:
2.6e-06   reward: 7.85
epis: 2278   score: 4.0   mem len: 592471   epsilon: 0.0249   steps: 260   lr:
2.6e-06   reward: 7.83
epis: 2279   score: 11.0   mem len: 592985   epsilon: 0.0239   steps: 514
lr: 2.6e-06   reward: 7.88
epis: 2280   score: 4.0   mem len: 593264   epsilon: 0.0233   steps: 279   lr:
2.6e-06   reward: 7.83
epis: 2281   score: 13.0   mem len: 593723   epsilon: 0.0224   steps: 459
lr: 2.6e-06   reward: 7.86
epis: 2282   score: 5.0   mem len: 594049   epsilon: 0.0218   steps: 326   lr:
2.6e-06   reward: 7.8
epis: 2283   score: 5.0   mem len: 594362   epsilon: 0.0212   steps: 313   lr:
2.6e-06   reward: 7.8
epis: 2284   score: 8.0   mem len: 594819   epsilon: 0.0203   steps: 457   lr:
2.6e-06   reward: 7.83
epis: 2285   score: 4.0   mem len: 595080   epsilon: 0.0197   steps: 261   lr:
2.6e-06   reward: 7.74
epis: 2286   score: 5.0   mem len: 595404   epsilon: 0.0191   steps: 324   lr:
2.6e-06   reward: 7.71
epis: 2287   score: 8.0   mem len: 595832   epsilon: 0.0183   steps: 428   lr:
2.6e-06   reward: 7.69
epis: 2288   score: 5.0   mem len: 596120   epsilon: 0.0177   steps: 288   lr:
2.6e-06   reward: 7.71
epis: 2289   score: 5.0   mem len: 596408   epsilon: 0.0171   steps: 288   lr:
2.6e-06   reward: 7.69
epis: 2290   score: 11.0   mem len: 596847   epsilon: 0.0162   steps: 439
lr: 2.6e-06   reward: 7.74
epis: 2291   score: 13.0   mem len: 597461   epsilon: 0.015   steps: 614   lr:
2.6e-06   reward: 7.72
epis: 2292   score: 8.0   mem len: 597893   epsilon: 0.0142   steps: 432   lr:
2.6e-06   reward: 7.7
epis: 2293   score: 4.0   mem len: 598154   epsilon: 0.0137   steps: 261   lr:
2.6e-06   reward: 7.68
epis: 2294   score: 5.0   mem len: 598463   epsilon: 0.013   steps: 309   lr:
2.6e-06   reward: 7.65
epis: 2295   score: 5.0   mem len: 598787   epsilon: 0.0124   steps: 324   lr:
2.6e-06   reward: 7.64
epis: 2296   score: 6.0   mem len: 599147   epsilon: 0.0117   steps: 360   lr:
2.6e-06   reward: 7.62
epis: 2297   score: 9.0   mem len: 599607   epsilon: 0.0108   steps: 460   lr:

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2.6e-06    reward: 7.65
epis: 2298    score: 12.0    mem len: 600189    epsilon: 0.01    steps: 582    lr:
1e-06    reward: 7.73
epis: 2299    score: 7.0    mem len: 600586    epsilon: 0.01    steps: 397    lr:
1e-06    reward: 7.77
epis: 2300    score: 6.0    mem len: 600926    epsilon: 0.01    steps: 340    lr:
1e-06    reward: 7.77
epis: 2301    score: 5.0    mem len: 601252    epsilon: 0.01    steps: 326    lr:
1e-06    reward: 7.76
epis: 2302    score: 10.0    mem len: 601737    epsilon: 0.01    steps: 485    lr:
1e-06    reward: 7.77
epis: 2303    score: 10.0    mem len: 602234    epsilon: 0.01    steps: 497    lr:
1e-06    reward: 7.81
epis: 2304    score: 10.0    mem len: 602753    epsilon: 0.01    steps: 519    lr:
1e-06    reward: 7.81
epis: 2305    score: 6.0    mem len: 603099    epsilon: 0.01    steps: 346    lr:
1e-06    reward: 7.79
epis: 2306    score: 5.0    mem len: 603425    epsilon: 0.01    steps: 326    lr:
1e-06    reward: 7.73
epis: 2307    score: 5.0    mem len: 603751    epsilon: 0.01    steps: 326    lr:
1e-06    reward: 7.67
epis: 2308    score: 8.0    mem len: 604142    epsilon: 0.01    steps: 391    lr:
1e-06    reward: 7.66
epis: 2309    score: 15.0    mem len: 604576    epsilon: 0.01    steps: 434    lr:
1e-06    reward: 7.77
epis: 2310    score: 6.0    mem len: 604904    epsilon: 0.01    steps: 328    lr:
1e-06    reward: 7.78
epis: 2311    score: 13.0    mem len: 605512    epsilon: 0.01    steps: 608    lr:
1e-06    reward: 7.72
epis: 2312    score: 12.0    mem len: 606087    epsilon: 0.01    steps: 575    lr:
1e-06    reward: 7.75
epis: 2313    score: 6.0    mem len: 606397    epsilon: 0.01    steps: 310    lr:
1e-06    reward: 7.75
epis: 2314    score: 7.0    mem len: 606754    epsilon: 0.01    steps: 357    lr:
1e-06    reward: 7.74
epis: 2315    score: 9.0    mem len: 607225    epsilon: 0.01    steps: 471    lr:
1e-06    reward: 7.74
epis: 2316    score: 4.0    mem len: 607486    epsilon: 0.01    steps: 261    lr:
1e-06    reward: 7.69
epis: 2317    score: 7.0    mem len: 607884    epsilon: 0.01    steps: 398    lr:
1e-06    reward: 7.69
epis: 2318    score: 8.0    mem len: 608339    epsilon: 0.01    steps: 455    lr:
1e-06    reward: 7.68
epis: 2319    score: 6.0    mem len: 608682    epsilon: 0.01    steps: 343    lr:
1e-06    reward: 7.7
epis: 2320    score: 12.0    mem len: 609224    epsilon: 0.01    steps: 542    lr:
1e-06    reward: 7.76
epis: 2321    score: 5.0    mem len: 609537    epsilon: 0.01    steps: 313    lr:
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1e-06   reward: 7.74
epis: 2322   score: 7.0   mem len: 609906   epsilon: 0.01   steps: 369   lr:
1e-06   reward: 7.75
epis: 2323   score: 13.0   mem len: 610411   epsilon: 0.01   steps: 505   lr:
1e-06   reward: 7.79
epis: 2324   score: 5.0   mem len: 610737   epsilon: 0.01   steps: 326   lr:
1e-06   reward: 7.76
epis: 2325   score: 3.0   mem len: 610969   epsilon: 0.01   steps: 232   lr:
1e-06   reward: 7.7
epis: 2326   score: 11.0   mem len: 611513   epsilon: 0.01   steps: 544   lr:
1e-06   reward: 7.75
epis: 2327   score: 9.0   mem len: 611984   epsilon: 0.01   steps: 471   lr:
1e-06   reward: 7.8
epis: 2328   score: 4.0   mem len: 612266   epsilon: 0.01   steps: 282   lr:
1e-06   reward: 7.71
epis: 2329   score: 9.0   mem len: 612737   epsilon: 0.01   steps: 471   lr:
1e-06   reward: 7.74
epis: 2330   score: 3.0   mem len: 612969   epsilon: 0.01   steps: 232   lr:
1e-06   reward: 7.7
epis: 2331   score: 13.0   mem len: 613577   epsilon: 0.01   steps: 608   lr:
1e-06   reward: 7.79
epis: 2332   score: 9.0   mem len: 614048   epsilon: 0.01   steps: 471   lr:
1e-06   reward: 7.79
epis: 2333   score: 11.0   mem len: 614486   epsilon: 0.01   steps: 438   lr:
1e-06   reward: 7.85
epis: 2334   score: 3.0   mem len: 614718   epsilon: 0.01   steps: 232   lr:
1e-06   reward: 7.81
epis: 2335   score: 9.0   mem len: 615048   epsilon: 0.01   steps: 330   lr:
1e-06   reward: 7.82
epis: 2336   score: 8.0   mem len: 615442   epsilon: 0.01   steps: 394   lr:
1e-06   reward: 7.78
epis: 2337   score: 6.0   mem len: 615788   epsilon: 0.01   steps: 346   lr:
1e-06   reward: 7.73
epis: 2338   score: 9.0   mem len: 616254   epsilon: 0.01   steps: 466   lr:
1e-06   reward: 7.73
epis: 2339   score: 8.0   mem len: 616661   epsilon: 0.01   steps: 407   lr:
1e-06   reward: 7.78
epis: 2340   score: 10.0   mem len: 617172   epsilon: 0.01   steps: 511   lr:
1e-06   reward: 7.78
epis: 2341   score: 13.0   mem len: 617780   epsilon: 0.01   steps: 608   lr:
1e-06   reward: 7.85
epis: 2342   score: 9.0   mem len: 618251   epsilon: 0.01   steps: 471   lr:
1e-06   reward: 7.82
epis: 2343   score: 9.0   mem len: 618754   epsilon: 0.01   steps: 503   lr:
1e-06   reward: 7.81
epis: 2344   score: 9.0   mem len: 619222   epsilon: 0.01   steps: 468   lr:
1e-06   reward: 7.83
epis: 2345   score: 7.0   mem len: 619650   epsilon: 0.01   steps: 428   lr:

1e-06   reward: 7.86
epis: 2346   score: 7.0   mem len: 620060   epsilon: 0.01   steps: 410   lr:
1e-06   reward: 7.88
epis: 2347   score: 14.0   mem len: 620569   epsilon: 0.01   steps: 509   lr:
1e-06   reward: 7.95
epis: 2348   score: 8.0   mem len: 620976   epsilon: 0.01   steps: 407   lr:
1e-06   reward: 7.94
epis: 2349   score: 8.0   mem len: 621393   epsilon: 0.01   steps: 417   lr:
1e-06   reward: 7.95
epis: 2350   score: 10.0   mem len: 621903   epsilon: 0.01   steps: 510   lr:
1e-06   reward: 8.02
epis: 2351   score: 5.0   mem len: 622198   epsilon: 0.01   steps: 295   lr:
1e-06   reward: 8.0
epis: 2352   score: 11.0   mem len: 622775   epsilon: 0.01   steps: 577   lr:
1e-06   reward: 8.05
epis: 2353   score: 10.0   mem len: 623262   epsilon: 0.01   steps: 487   lr:
1e-06   reward: 8.04
epis: 2354   score: 8.0   mem len: 623740   epsilon: 0.01   steps: 478   lr:
1e-06   reward: 8.02
epis: 2355   score: 11.0   mem len: 624267   epsilon: 0.01   steps: 527   lr:
1e-06   reward: 7.99
epis: 2356   score: 8.0   mem len: 624692   epsilon: 0.01   steps: 425   lr:
1e-06   reward: 8.0
epis: 2357   score: 7.0   mem len: 625083   epsilon: 0.01   steps: 391   lr:
1e-06   reward: 7.98
epis: 2358   score: 5.0   mem len: 625409   epsilon: 0.01   steps: 326   lr:
1e-06   reward: 7.91
epis: 2359   score: 5.0   mem len: 625717   epsilon: 0.01   steps: 308   lr:
1e-06   reward: 7.9
epis: 2360   score: 4.0   mem len: 625999   epsilon: 0.01   steps: 282   lr:
1e-06   reward: 7.83
epis: 2361   score: 10.0   mem len: 626539   epsilon: 0.01   steps: 540   lr:
1e-06   reward: 7.84
epis: 2362   score: 6.0   mem len: 626899   epsilon: 0.01   steps: 360   lr:
1e-06   reward: 7.85
epis: 2363   score: 9.0   mem len: 627360   epsilon: 0.01   steps: 461   lr:
1e-06   reward: 7.87
epis: 2364   score: 15.0   mem len: 627794   epsilon: 0.01   steps: 434   lr:
1e-06   reward: 7.95
epis: 2365   score: 11.0   mem len: 628261   epsilon: 0.01   steps: 467   lr:
1e-06   reward: 7.95
epis: 2366   score: 7.0   mem len: 628633   epsilon: 0.01   steps: 372   lr:
1e-06   reward: 7.93
epis: 2367   score: 12.0   mem len: 629208   epsilon: 0.01   steps: 575   lr:
1e-06   reward: 7.99
epis: 2368   score: 11.0   mem len: 629762   epsilon: 0.01   steps: 554   lr:
1e-06   reward: 8.03
epis: 2369   score: 10.0   mem len: 630121   epsilon: 0.01   steps: 359   lr:

1e-06   reward: 8.02
epis: 2370   score: 7.0   mem len: 630549   epsilon: 0.01   steps: 428   lr:
1e-06   reward: 8.04
epis: 2371   score: 6.0   mem len: 630903   epsilon: 0.01   steps: 354   lr:
1e-06   reward: 8.0
epis: 2372   score: 12.0   mem len: 631526   epsilon: 0.01   steps: 623   lr:
1e-06   reward: 8.02
epis: 2373   score: 7.0   mem len: 631917   epsilon: 0.01   steps: 391   lr:
1e-06   reward: 8.03
epis: 2374   score: 7.0   mem len: 632298   epsilon: 0.01   steps: 381   lr:
1e-06   reward: 7.96
epis: 2375   score: 9.0   mem len: 632776   epsilon: 0.01   steps: 478   lr:
1e-06   reward: 7.98
epis: 2376   score: 18.0   mem len: 633333   epsilon: 0.01   steps: 557   lr:
1e-06   reward: 8.11
epis: 2377   score: 15.0   mem len: 633767   epsilon: 0.01   steps: 434   lr:
1e-06   reward: 8.22
epis: 2378   score: 4.0   mem len: 634009   epsilon: 0.01   steps: 242   lr:
1e-06   reward: 8.22
epis: 2379   score: 14.0   mem len: 634534   epsilon: 0.01   steps: 525   lr:
1e-06   reward: 8.25
epis: 2380   score: 4.0   mem len: 634812   epsilon: 0.01   steps: 278   lr:
1e-06   reward: 8.25
epis: 2381   score: 8.0   mem len: 635270   epsilon: 0.01   steps: 458   lr:
1e-06   reward: 8.2
epis: 2382   score: 7.0   mem len: 635658   epsilon: 0.01   steps: 388   lr:
1e-06   reward: 8.22
epis: 2383   score: 14.0   mem len: 636200   epsilon: 0.01   steps: 542   lr:
1e-06   reward: 8.31
epis: 2384   score: 15.0   mem len: 636826   epsilon: 0.01   steps: 626   lr:
1e-06   reward: 8.38
epis: 2385   score: 3.0   mem len: 637058   epsilon: 0.01   steps: 232   lr:
1e-06   reward: 8.37
epis: 2386   score: 10.0   mem len: 637543   epsilon: 0.01   steps: 485   lr:
1e-06   reward: 8.42
epis: 2387   score: 12.0   mem len: 638139   epsilon: 0.01   steps: 596   lr:
1e-06   reward: 8.46
epis: 2388   score: 15.0   mem len: 638680   epsilon: 0.01   steps: 541   lr:
1e-06   reward: 8.56
epis: 2389   score: 6.0   mem len: 639008   epsilon: 0.01   steps: 328   lr:
1e-06   reward: 8.57
epis: 2390   score: 11.0   mem len: 639535   epsilon: 0.01   steps: 527   lr:
1e-06   reward: 8.57
epis: 2391   score: 11.0   mem len: 640077   epsilon: 0.01   steps: 542   lr:
1e-06   reward: 8.55
epis: 2392   score: 3.0   mem len: 640309   epsilon: 0.01   steps: 232   lr:
1e-06   reward: 8.5
epis: 2393   score: 5.0   mem len: 640590   epsilon: 0.01   steps: 281   lr:

1e-06   reward: 8.51
epis: 2394   score: 6.0   mem len: 640900   epsilon: 0.01   steps: 310   lr:
1e-06   reward: 8.52
epis: 2395   score: 10.0   mem len: 641403   epsilon: 0.01   steps: 503   lr:
1e-06   reward: 8.57
epis: 2396   score: 6.0   mem len: 641762   epsilon: 0.01   steps: 359   lr:
1e-06   reward: 8.57
epis: 2397   score: 12.0   mem len: 642337   epsilon: 0.01   steps: 575   lr:
1e-06   reward: 8.6
epis: 2398   score: 14.0   mem len: 642976   epsilon: 0.01   steps: 639   lr:
1e-06   reward: 8.62
epis: 2399   score: 9.0   mem len: 643435   epsilon: 0.01   steps: 459   lr:
1e-06   reward: 8.64
epis: 2400   score: 10.0   mem len: 643938   epsilon: 0.01   steps: 503   lr:
1e-06   reward: 8.68
epis: 2401   score: 8.0   mem len: 644369   epsilon: 0.01   steps: 431   lr:
1e-06   reward: 8.71
epis: 2402   score: 10.0   mem len: 644862   epsilon: 0.01   steps: 493   lr:
1e-06   reward: 8.71
epis: 2403   score: 15.0   mem len: 645296   epsilon: 0.01   steps: 434   lr:
1e-06   reward: 8.76
epis: 2404   score: 9.0   mem len: 645751   epsilon: 0.01   steps: 455   lr:
1e-06   reward: 8.75
epis: 2405   score: 13.0   mem len: 646357   epsilon: 0.01   steps: 606   lr:
1e-06   reward: 8.82
epis: 2406   score: 21.0   mem len: 647020   epsilon: 0.01   steps: 663   lr:
1e-06   reward: 8.98
epis: 2407   score: 9.0   mem len: 647490   epsilon: 0.01   steps: 470   lr:
1e-06   reward: 9.02
epis: 2408   score: 9.0   mem len: 647956   epsilon: 0.01   steps: 466   lr:
1e-06   reward: 9.03
epis: 2409   score: 12.0   mem len: 648522   epsilon: 0.01   steps: 566   lr:
1e-06   reward: 9.0
epis: 2410   score: 8.0   mem len: 648939   epsilon: 0.01   steps: 417   lr:
1e-06   reward: 9.02
epis: 2411   score: 9.0   mem len: 649385   epsilon: 0.01   steps: 446   lr:
1e-06   reward: 8.98
epis: 2412   score: 22.0   mem len: 650123   epsilon: 0.01   steps: 738   lr:
1e-06   reward: 9.08
epis: 2413   score: 5.0   mem len: 650449   epsilon: 0.01   steps: 326   lr:
1e-06   reward: 9.07
epis: 2414   score: 11.0   mem len: 650984   epsilon: 0.01   steps: 535   lr:
1e-06   reward: 9.11
epis: 2415   score: 9.0   mem len: 651450   epsilon: 0.01   steps: 466   lr:
1e-06   reward: 9.11
epis: 2416   score: 11.0   mem len: 651968   epsilon: 0.01   steps: 518   lr:
1e-06   reward: 9.18
epis: 2417   score: 3.0   mem len: 652200   epsilon: 0.01   steps: 232   lr:

1e-06   reward: 9.14
epis: 2418   score: 8.0   mem len: 652617   epsilon: 0.01   steps: 417   lr:
1e-06   reward: 9.14
epis: 2419   score: 9.0   mem len: 653073   epsilon: 0.01   steps: 456   lr:
1e-06   reward: 9.17
epis: 2420   score: 14.0   mem len: 653591   epsilon: 0.01   steps: 518   lr:
1e-06   reward: 9.19
epis: 2421   score: 9.0   mem len: 654062   epsilon: 0.01   steps: 471   lr:
1e-06   reward: 9.23
epis: 2422   score: 9.0   mem len: 654508   epsilon: 0.01   steps: 446   lr:
1e-06   reward: 9.25
epis: 2423   score: 11.0   mem len: 655010   epsilon: 0.01   steps: 502   lr:
1e-06   reward: 9.23
epis: 2424   score: 16.0   mem len: 655634   epsilon: 0.01   steps: 624   lr:
1e-06   reward: 9.34
epis: 2425   score: 3.0   mem len: 655866   epsilon: 0.01   steps: 232   lr:
1e-06   reward: 9.34
epis: 2426   score: 14.0   mem len: 656445   epsilon: 0.01   steps: 579   lr:
1e-06   reward: 9.37
epis: 2427   score: 15.0   mem len: 656961   epsilon: 0.01   steps: 516   lr:
1e-06   reward: 9.43
epis: 2428   score: 5.0   mem len: 657292   epsilon: 0.01   steps: 331   lr:
1e-06   reward: 9.44
epis: 2429   score: 4.0   mem len: 657553   epsilon: 0.01   steps: 261   lr:
1e-06   reward: 9.39
epis: 2430   score: 5.0   mem len: 657884   epsilon: 0.01   steps: 331   lr:
1e-06   reward: 9.41
epis: 2431   score: 9.0   mem len: 658355   epsilon: 0.01   steps: 471   lr:
1e-06   reward: 9.37
epis: 2432   score: 9.0   mem len: 658826   epsilon: 0.01   steps: 471   lr:
1e-06   reward: 9.37
epis: 2433   score: 3.0   mem len: 659057   epsilon: 0.01   steps: 231   lr:
1e-06   reward: 9.29
epis: 2434   score: 3.0   mem len: 659289   epsilon: 0.01   steps: 232   lr:
1e-06   reward: 9.29
epis: 2435   score: 7.0   mem len: 659646   epsilon: 0.01   steps: 357   lr:
1e-06   reward: 9.27
epis: 2436   score: 5.0   mem len: 659958   epsilon: 0.01   steps: 312   lr:
1e-06   reward: 9.24
epis: 2437   score: 3.0   mem len: 660190   epsilon: 0.01   steps: 232   lr:
1e-06   reward: 9.21
epis: 2438   score: 6.0   mem len: 660536   epsilon: 0.01   steps: 346   lr:
1e-06   reward: 9.18
epis: 2439   score: 7.0   mem len: 660905   epsilon: 0.01   steps: 369   lr:
1e-06   reward: 9.17
epis: 2440   score: 15.0   mem len: 661458   epsilon: 0.01   steps: 553   lr:
1e-06   reward: 9.22
epis: 2441   score: 11.0   mem len: 662015   epsilon: 0.01   steps: 557   lr:

1e-06   reward: 9.2
epis: 2442   score: 11.0   mem len: 662568   epsilon: 0.01   steps: 553   lr:
1e-06   reward: 9.22
epis: 2443   score: 7.0   mem len: 662937   epsilon: 0.01   steps: 369   lr:
1e-06   reward: 9.2
epis: 2444   score: 4.0   mem len: 663198   epsilon: 0.01   steps: 261   lr:
1e-06   reward: 9.15
epis: 2445   score: 12.0   mem len: 663760   epsilon: 0.01   steps: 562   lr:
1e-06   reward: 9.2
epis: 2446   score: 10.0   mem len: 664262   epsilon: 0.01   steps: 502   lr:
1e-06   reward: 9.23
epis: 2447   score: 7.0   mem len: 664651   epsilon: 0.01   steps: 389   lr:
1e-06   reward: 9.16
epis: 2448   score: 7.0   mem len: 665060   epsilon: 0.01   steps: 409   lr:
1e-06   reward: 9.15
epis: 2449   score: 10.0   mem len: 665562   epsilon: 0.01   steps: 502   lr:
1e-06   reward: 9.17
epis: 2450   score: 6.0   mem len: 665872   epsilon: 0.01   steps: 310   lr:
1e-06   reward: 9.13
epis: 2451   score: 6.0   mem len: 666214   epsilon: 0.01   steps: 342   lr:
1e-06   reward: 9.14
epis: 2452   score: 13.0   mem len: 666822   epsilon: 0.01   steps: 608   lr:
1e-06   reward: 9.16
epis: 2453   score: 8.0   mem len: 667229   epsilon: 0.01   steps: 407   lr:
1e-06   reward: 9.14
epis: 2454   score: 11.0   mem len: 667735   epsilon: 0.01   steps: 506   lr:
1e-06   reward: 9.17
epis: 2455   score: 7.0   mem len: 668122   epsilon: 0.01   steps: 387   lr:
1e-06   reward: 9.13
epis: 2456   score: 15.0   mem len: 668762   epsilon: 0.01   steps: 640   lr:
1e-06   reward: 9.2
epis: 2457   score: 10.0   mem len: 669248   epsilon: 0.01   steps: 486   lr:
1e-06   reward: 9.23
epis: 2458   score: 10.0   mem len: 669735   epsilon: 0.01   steps: 487   lr:
1e-06   reward: 9.28
epis: 2459   score: 11.0   mem len: 670275   epsilon: 0.01   steps: 540   lr:
1e-06   reward: 9.34
epis: 2460   score: 9.0   mem len: 670747   epsilon: 0.01   steps: 472   lr:
1e-06   reward: 9.39
epis: 2461   score: 10.0   mem len: 671241   epsilon: 0.01   steps: 494   lr:
1e-06   reward: 9.39
epis: 2462   score: 17.0   mem len: 671743   epsilon: 0.01   steps: 502   lr:
1e-06   reward: 9.5
epis: 2463   score: 10.0   mem len: 672266   epsilon: 0.01   steps: 523   lr:
1e-06   reward: 9.51
epis: 2464   score: 13.0   mem len: 672886   epsilon: 0.01   steps: 620   lr:
1e-06   reward: 9.49
epis: 2465   score: 10.0   mem len: 673293   epsilon: 0.01   steps: 407   lr:

1e-06   reward: 9.48
epis: 2466   score: 7.0   mem len: 673697   epsilon: 0.01   steps: 404   lr:
1e-06   reward: 9.48
epis: 2467   score: 13.0   mem len: 674208   epsilon: 0.01   steps: 511   lr:
1e-06   reward: 9.49
epis: 2468   score: 10.0   mem len: 674750   epsilon: 0.01   steps: 542   lr:
1e-06   reward: 9.48
epis: 2469   score: 14.0   mem len: 675238   epsilon: 0.01   steps: 488   lr:
1e-06   reward: 9.52
epis: 2470   score: 6.0   mem len: 675558   epsilon: 0.01   steps: 320   lr:
1e-06   reward: 9.51
epis: 2471   score: 5.0   mem len: 675864   epsilon: 0.01   steps: 306   lr:
1e-06   reward: 9.5
epis: 2472   score: 8.0   mem len: 676324   epsilon: 0.01   steps: 460   lr:
1e-06   reward: 9.46
epis: 2473   score: 10.0   mem len: 676811   epsilon: 0.01   steps: 487   lr:
1e-06   reward: 9.49
epis: 2474   score: 18.0   mem len: 677474   epsilon: 0.01   steps: 663   lr:
1e-06   reward: 9.6
epis: 2475   score: 8.0   mem len: 677880   epsilon: 0.01   steps: 406   lr:
1e-06   reward: 9.59
epis: 2476   score: 13.0   mem len: 678446   epsilon: 0.01   steps: 566   lr:
1e-06   reward: 9.54
epis: 2477   score: 13.0   mem len: 678964   epsilon: 0.01   steps: 518   lr:
1e-06   reward: 9.52
epis: 2478   score: 9.0   mem len: 679410   epsilon: 0.01   steps: 446   lr:
1e-06   reward: 9.57
epis: 2479   score: 13.0   mem len: 679999   epsilon: 0.01   steps: 589   lr:
1e-06   reward: 9.56
epis: 2480   score: 9.0   mem len: 680440   epsilon: 0.01   steps: 441   lr:
1e-06   reward: 9.61
epis: 2481   score: 9.0   mem len: 680927   epsilon: 0.01   steps: 487   lr:
1e-06   reward: 9.62
epis: 2482   score: 10.0   mem len: 681406   epsilon: 0.01   steps: 479   lr:
1e-06   reward: 9.65
epis: 2483   score: 11.0   mem len: 681979   epsilon: 0.01   steps: 573   lr:
1e-06   reward: 9.62
epis: 2484   score: 13.0   mem len: 682591   epsilon: 0.01   steps: 612   lr:
1e-06   reward: 9.6
epis: 2485   score: 6.0   mem len: 682955   epsilon: 0.01   steps: 364   lr:
1e-06   reward: 9.63
epis: 2486   score: 5.0   mem len: 683266   epsilon: 0.01   steps: 311   lr:
1e-06   reward: 9.58
epis: 2487   score: 5.0   mem len: 683615   epsilon: 0.01   steps: 349   lr:
1e-06   reward: 9.51
epis: 2488   score: 15.0   mem len: 684221   epsilon: 0.01   steps: 606   lr:
1e-06   reward: 9.51
epis: 2489   score: 12.0   mem len: 684791   epsilon: 0.01   steps: 570   lr:

1e-06   reward: 9.57
epis: 2490   score: 11.0   mem len: 685293   epsilon: 0.01   steps: 502   lr:
1e-06   reward: 9.57
epis: 2491   score: 10.0   mem len: 685795   epsilon: 0.01   steps: 502   lr:
1e-06   reward: 9.56
epis: 2492   score: 12.0   mem len: 686351   epsilon: 0.01   steps: 556   lr:
1e-06   reward: 9.65
epis: 2493   score: 10.0   mem len: 686824   epsilon: 0.01   steps: 473   lr:
1e-06   reward: 9.7
epis: 2494   score: 10.0   mem len: 687297   epsilon: 0.01   steps: 473   lr:
1e-06   reward: 9.74
epis: 2495   score: 15.0   mem len: 687731   epsilon: 0.01   steps: 434   lr:
1e-06   reward: 9.79
epis: 2496   score: 10.0   mem len: 688257   epsilon: 0.01   steps: 526   lr:
1e-06   reward: 9.83
epis: 2497   score: 10.0   mem len: 688743   epsilon: 0.01   steps: 486   lr:
1e-06   reward: 9.81
epis: 2498   score: 4.0   mem len: 689004   epsilon: 0.01   steps: 261   lr:
1e-06   reward: 9.71
epis: 2499   score: 5.0   mem len: 689310   epsilon: 0.01   steps: 306   lr:
1e-06   reward: 9.67
epis: 2500   score: 15.0   mem len: 689860   epsilon: 0.01   steps: 550   lr:
1e-06   reward: 9.72
epis: 2501   score: 10.0   mem len: 690219   epsilon: 0.01   steps: 359   lr:
1e-06   reward: 9.74
epis: 2502   score: 15.0   mem len: 690653   epsilon: 0.01   steps: 434   lr:
1e-06   reward: 9.79
epis: 2503   score: 7.0   mem len: 691018   epsilon: 0.01   steps: 365   lr:
1e-06   reward: 9.71
epis: 2504   score: 9.0   mem len: 691457   epsilon: 0.01   steps: 439   lr:
1e-06   reward: 9.71
epis: 2505   score: 7.0   mem len: 691844   epsilon: 0.01   steps: 387   lr:
1e-06   reward: 9.65
epis: 2506   score: 6.0   mem len: 692161   epsilon: 0.01   steps: 317   lr:
1e-06   reward: 9.5
epis: 2507   score: 12.0   mem len: 692759   epsilon: 0.01   steps: 598   lr:
1e-06   reward: 9.53
epis: 2508   score: 11.0   mem len: 693294   epsilon: 0.01   steps: 535   lr:
1e-06   reward: 9.55
epis: 2509   score: 6.0   mem len: 693671   epsilon: 0.01   steps: 377   lr:
1e-06   reward: 9.49
epis: 2510   score: 16.0   mem len: 694267   epsilon: 0.01   steps: 596   lr:
1e-06   reward: 9.57
epis: 2511   score: 17.0   mem len: 694802   epsilon: 0.01   steps: 535   lr:
1e-06   reward: 9.65
epis: 2512   score: 19.0   mem len: 695535   epsilon: 0.01   steps: 733   lr:
1e-06   reward: 9.62
epis: 2513   score: 17.0   mem len: 696112   epsilon: 0.01   steps: 577   lr:

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1e-06      reward: 9.74
epis: 2514   score: 6.0   mem len: 696451   epsilon: 0.01    steps: 339    lr:
1e-06      reward: 9.69
epis: 2515   score: 9.0   mem len: 696917   epsilon: 0.01    steps: 466    lr:
1e-06      reward: 9.69
epis: 2516   score: 6.0   mem len: 697236   epsilon: 0.01    steps: 319    lr:
1e-06      reward: 9.64
epis: 2517   score: 10.0   mem len: 697722   epsilon: 0.01    steps: 486    lr:
1e-06      reward: 9.71
epis: 2518   score: 10.0   mem len: 698226   epsilon: 0.01    steps: 504    lr:
1e-06      reward: 9.73
epis: 2519   score: 7.0   mem len: 698576   epsilon: 0.01    steps: 350    lr:
1e-06      reward: 9.71
epis: 2520   score: 7.0   mem len: 698966   epsilon: 0.01    steps: 390    lr:
1e-06      reward: 9.64
epis: 2521   score: 6.0   mem len: 699306   epsilon: 0.01    steps: 340    lr:
1e-06      reward: 9.61
epis: 2522   score: 17.0   mem len: 699828   epsilon: 0.01    steps: 522    lr:
1e-06      reward: 9.69
epis: 2523   score: 9.0   mem len: 700248   epsilon: 0.01    steps: 420    lr:
4e-07      reward: 9.67
epis: 2524   score: 12.0   mem len: 700749   epsilon: 0.01    steps: 501    lr:
4e-07      reward: 9.63
epis: 2525   score: 12.0   mem len: 701310   epsilon: 0.01    steps: 561    lr:
4e-07      reward: 9.72
epis: 2526   score: 11.0   mem len: 701843   epsilon: 0.01    steps: 533    lr:
4e-07      reward: 9.69
epis: 2527   score: 21.0   mem len: 702535   epsilon: 0.01    steps: 692    lr:
4e-07      reward: 9.75
epis: 2528   score: 15.0   mem len: 702969   epsilon: 0.01    steps: 434    lr:
4e-07      reward: 9.85
epis: 2529   score: 15.0   mem len: 703403   epsilon: 0.01    steps: 434    lr:
4e-07      reward: 9.96
epis: 2530   score: 15.0   mem len: 703837   epsilon: 0.01    steps: 434    lr:
4e-07      reward: 10.06
epis: 2531   score: 9.0   mem len: 704296   epsilon: 0.01    steps: 459    lr:
4e-07      reward: 10.06
epis: 2532   score: 9.0   mem len: 704753   epsilon: 0.01    steps: 457    lr:
4e-07      reward: 10.06
epis: 2533   score: 10.0   mem len: 705237   epsilon: 0.01    steps: 484    lr:
4e-07      reward: 10.13
epis: 2534   score: 10.0   mem len: 705723   epsilon: 0.01    steps: 486    lr:
4e-07      reward: 10.2
epis: 2535   score: 7.0   mem len: 706111   epsilon: 0.01    steps: 388    lr:
4e-07      reward: 10.2
epis: 2536   score: 14.0   mem len: 706599   epsilon: 0.01    steps: 488    lr:
4e-07      reward: 10.29
epis: 2537   score: 15.0   mem len: 707033   epsilon: 0.01    steps: 434    lr:
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4e-07   reward: 10.41
epis: 2538   score: 10.0   mem len: 707533   epsilon: 0.01   steps: 500   lr:
4e-07   reward: 10.45
epis: 2539   score: 8.0   mem len: 707958   epsilon: 0.01   steps: 425   lr:
4e-07   reward: 10.46
epis: 2540   score: 11.0   mem len: 708463   epsilon: 0.01   steps: 505   lr:
4e-07   reward: 10.42
epis: 2541   score: 14.0   mem len: 709098   epsilon: 0.01   steps: 635   lr:
4e-07   reward: 10.45
epis: 2542   score: 13.0   mem len: 709712   epsilon: 0.01   steps: 614   lr:
4e-07   reward: 10.47
epis: 2543   score: 11.0   mem len: 710121   epsilon: 0.01   steps: 409   lr:
4e-07   reward: 10.51
epis: 2544   score: 9.0   mem len: 710593   epsilon: 0.01   steps: 472   lr:
4e-07   reward: 10.56
epis: 2545   score: 7.0   mem len: 710961   epsilon: 0.01   steps: 368   lr:
4e-07   reward: 10.51
epis: 2546   score: 6.0   mem len: 711283   epsilon: 0.01   steps: 322   lr:
4e-07   reward: 10.47
epis: 2547   score: 11.0   mem len: 711798   epsilon: 0.01   steps: 515   lr:
4e-07   reward: 10.51
epis: 2548   score: 6.0   mem len: 712120   epsilon: 0.01   steps: 322   lr:
4e-07   reward: 10.5
epis: 2549   score: 16.0   mem len: 712614   epsilon: 0.01   steps: 494   lr:
4e-07   reward: 10.56
epis: 2550   score: 7.0   mem len: 712983   epsilon: 0.01   steps: 369   lr:
4e-07   reward: 10.57
epis: 2551   score: 9.0   mem len: 713411   epsilon: 0.01   steps: 428   lr:
4e-07   reward: 10.6
epis: 2552   score: 11.0   mem len: 713942   epsilon: 0.01   steps: 531   lr:
4e-07   reward: 10.58
epis: 2553   score: 9.0   mem len: 714414   epsilon: 0.01   steps: 472   lr:
4e-07   reward: 10.59
epis: 2554   score: 9.0   mem len: 714886   epsilon: 0.01   steps: 472   lr:
4e-07   reward: 10.57
epis: 2555   score: 13.0   mem len: 715492   epsilon: 0.01   steps: 606   lr:
4e-07   reward: 10.63
epis: 2556   score: 9.0   mem len: 715959   epsilon: 0.01   steps: 467   lr:
4e-07   reward: 10.57
epis: 2557   score: 19.0   mem len: 716628   epsilon: 0.01   steps: 669   lr:
4e-07   reward: 10.66
epis: 2558   score: 12.0   mem len: 717230   epsilon: 0.01   steps: 602   lr:
4e-07   reward: 10.68
epis: 2559   score: 9.0   mem len: 717700   epsilon: 0.01   steps: 470   lr:
4e-07   reward: 10.66
epis: 2560   score: 12.0   mem len: 718290   epsilon: 0.01   steps: 590   lr:
4e-07   reward: 10.69
epis: 2561   score: 6.0   mem len: 718612   epsilon: 0.01   steps: 322   lr:

4e-07   reward: 10.65
epis: 2562   score: 20.0   mem len: 719197   epsilon: 0.01   steps: 585   lr:
4e-07   reward: 10.68
epis: 2563   score: 9.0   mem len: 719669   epsilon: 0.01   steps: 472   lr:
4e-07   reward: 10.67
epis: 2564   score: 4.0   mem len: 719930   epsilon: 0.01   steps: 261   lr:
4e-07   reward: 10.58
epis: 2565   score: 10.0   mem len: 720406   epsilon: 0.01   steps: 476   lr:
4e-07   reward: 10.58
epis: 2566   score: 9.0   mem len: 720870   epsilon: 0.01   steps: 464   lr:
4e-07   reward: 10.6
epis: 2567   score: 9.0   mem len: 721351   epsilon: 0.01   steps: 481   lr:
4e-07   reward: 10.56
epis: 2568   score: 9.0   mem len: 721823   epsilon: 0.01   steps: 472   lr:
4e-07   reward: 10.55
epis: 2569   score: 9.0   mem len: 722295   epsilon: 0.01   steps: 472   lr:
4e-07   reward: 10.5
epis: 2570   score: 9.0   mem len: 722749   epsilon: 0.01   steps: 454   lr:
4e-07   reward: 10.53
epis: 2571   score: 13.0   mem len: 723232   epsilon: 0.01   steps: 483   lr:
4e-07   reward: 10.61
epis: 2572   score: 11.0   mem len: 723782   epsilon: 0.01   steps: 550   lr:
4e-07   reward: 10.64
epis: 2573   score: 12.0   mem len: 724331   epsilon: 0.01   steps: 549   lr:
4e-07   reward: 10.66
epis: 2574   score: 15.0   mem len: 724832   epsilon: 0.01   steps: 501   lr:
4e-07   reward: 10.63
epis: 2575   score: 22.0   mem len: 725492   epsilon: 0.01   steps: 660   lr:
4e-07   reward: 10.77
epis: 2576   score: 11.0   mem len: 726029   epsilon: 0.01   steps: 537   lr:
4e-07   reward: 10.75
epis: 2577   score: 6.0   mem len: 726353   epsilon: 0.01   steps: 324   lr:
4e-07   reward: 10.68
epis: 2578   score: 8.0   mem len: 726775   epsilon: 0.01   steps: 422   lr:
4e-07   reward: 10.67
epis: 2579   score: 10.0   mem len: 727182   epsilon: 0.01   steps: 407   lr:
4e-07   reward: 10.64
epis: 2580   score: 11.0   mem len: 727736   epsilon: 0.01   steps: 554   lr:
4e-07   reward: 10.66
epis: 2581   score: 10.0   mem len: 728212   epsilon: 0.01   steps: 476   lr:
4e-07   reward: 10.67
epis: 2582   score: 10.0   mem len: 728699   epsilon: 0.01   steps: 487   lr:
4e-07   reward: 10.67
epis: 2583   score: 11.0   mem len: 729218   epsilon: 0.01   steps: 519   lr:
4e-07   reward: 10.67
epis: 2584   score: 6.0   mem len: 729556   epsilon: 0.01   steps: 338   lr:
4e-07   reward: 10.6
epis: 2585   score: 12.0   mem len: 730112   epsilon: 0.01   steps: 556   lr:

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4e-07     reward: 10.66
epis: 2586    score: 14.0    mem len: 730626    epsilon: 0.01    steps: 514    lr:
4e-07     reward: 10.75
epis: 2587    score: 8.0    mem len: 731041    epsilon: 0.01    steps: 415    lr:
4e-07     reward: 10.78
epis: 2588    score: 10.0    mem len: 731528    epsilon: 0.01    steps: 487    lr:
4e-07     reward: 10.73
epis: 2589    score: 10.0    mem len: 732001    epsilon: 0.01    steps: 473    lr:
4e-07     reward: 10.71
epis: 2590    score: 11.0    mem len: 732555    epsilon: 0.01    steps: 554    lr:
4e-07     reward: 10.71
epis: 2591    score: 9.0    mem len: 733023    epsilon: 0.01    steps: 468    lr:
4e-07     reward: 10.7
epis: 2592    score: 10.0    mem len: 733510    epsilon: 0.01    steps: 487    lr:
4e-07     reward: 10.68
epis: 2593    score: 5.0    mem len: 733785    epsilon: 0.01    steps: 275    lr:
4e-07     reward: 10.63
epis: 2594    score: 7.0    mem len: 734135    epsilon: 0.01    steps: 350    lr:
4e-07     reward: 10.6
epis: 2595    score: 5.0    mem len: 734443    epsilon: 0.01    steps: 308    lr:
4e-07     reward: 10.5
epis: 2596    score: 9.0    mem len: 734883    epsilon: 0.01    steps: 440    lr:
4e-07     reward: 10.49
epis: 2597    score: 10.0    mem len: 735402    epsilon: 0.01    steps: 519    lr:
4e-07     reward: 10.49
epis: 2598    score: 9.0    mem len: 735870    epsilon: 0.01    steps: 468    lr:
4e-07     reward: 10.54
epis: 2599    score: 10.0    mem len: 736356    epsilon: 0.01    steps: 486    lr:
4e-07     reward: 10.59
epis: 2600    score: 7.0    mem len: 736697    epsilon: 0.01    steps: 341    lr:
4e-07     reward: 10.51
epis: 2601    score: 6.0    mem len: 737043    epsilon: 0.01    steps: 346    lr:
4e-07     reward: 10.47
epis: 2602    score: 9.0    mem len: 737515    epsilon: 0.01    steps: 472    lr:
4e-07     reward: 10.41
epis: 2603    score: 9.0    mem len: 737987    epsilon: 0.01    steps: 472    lr:
4e-07     reward: 10.43
epis: 2604    score: 16.0    mem len: 738538    epsilon: 0.01    steps: 551    lr:
4e-07     reward: 10.5
epis: 2605    score: 9.0    mem len: 739010    epsilon: 0.01    steps: 472    lr:
4e-07     reward: 10.52
epis: 2606    score: 10.0    mem len: 739512    epsilon: 0.01    steps: 502    lr:
4e-07     reward: 10.56
epis: 2607    score: 6.0    mem len: 739871    epsilon: 0.01    steps: 359    lr:
4e-07     reward: 10.5
epis: 2608    score: 8.0    mem len: 740272    epsilon: 0.01    steps: 401    lr:
4e-07     reward: 10.47
epis: 2609    score: 8.0    mem len: 740713    epsilon: 0.01    steps: 441    lr:
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4e-07      reward: 10.49
epis: 2610   score: 15.0   mem len: 741214   epsilon: 0.01   steps: 501   lr:
4e-07      reward: 10.48
epis: 2611   score: 7.0   mem len: 741622   epsilon: 0.01   steps: 408   lr:
4e-07      reward: 10.38
epis: 2612   score: 7.0   mem len: 741980   epsilon: 0.01   steps: 358   lr:
4e-07      reward: 10.26
epis: 2613   score: 10.0   mem len: 742467   epsilon: 0.01   steps: 487   lr:
4e-07      reward: 10.19
epis: 2614   score: 15.0   mem len: 742971   epsilon: 0.01   steps: 504   lr:
4e-07      reward: 10.28
epis: 2615   score: 11.0   mem len: 743477   epsilon: 0.01   steps: 506   lr:
4e-07      reward: 10.3
epis: 2616   score: 9.0   mem len: 743933   epsilon: 0.01   steps: 456   lr:
4e-07      reward: 10.33
epis: 2617   score: 6.0   mem len: 744279   epsilon: 0.01   steps: 346   lr:
4e-07      reward: 10.29
epis: 2618   score: 11.0   mem len: 744850   epsilon: 0.01   steps: 571   lr:
4e-07      reward: 10.3
epis: 2619   score: 8.0   mem len: 745313   epsilon: 0.01   steps: 463   lr:
4e-07      reward: 10.31
epis: 2620   score: 7.0   mem len: 745720   epsilon: 0.01   steps: 407   lr:
4e-07      reward: 10.31
epis: 2621   score: 9.0   mem len: 746169   epsilon: 0.01   steps: 449   lr:
4e-07      reward: 10.34
epis: 2622   score: 6.0   mem len: 746526   epsilon: 0.01   steps: 357   lr:
4e-07      reward: 10.23
epis: 2623   score: 6.0   mem len: 746861   epsilon: 0.01   steps: 335   lr:
4e-07      reward: 10.2
epis: 2624   score: 10.0   mem len: 747358   epsilon: 0.01   steps: 497   lr:
4e-07      reward: 10.18
epis: 2625   score: 9.0   mem len: 747814   epsilon: 0.01   steps: 456   lr:
4e-07      reward: 10.15
epis: 2626   score: 8.0   mem len: 748221   epsilon: 0.01   steps: 407   lr:
4e-07      reward: 10.12
epis: 2627   score: 9.0   mem len: 748670   epsilon: 0.01   steps: 449   lr:
4e-07      reward: 10.0
epis: 2628   score: 8.0   mem len: 749052   epsilon: 0.01   steps: 382   lr:
4e-07      reward: 9.93
epis: 2629   score: 9.0   mem len: 749535   epsilon: 0.01   steps: 483   lr:
4e-07      reward: 9.87
epis: 2630   score: 7.0   mem len: 749904   epsilon: 0.01   steps: 369   lr:
4e-07      reward: 9.79
epis: 2631   score: 8.0   mem len: 750321   epsilon: 0.01   steps: 417   lr:
4e-07      reward: 9.78
epis: 2632   score: 5.0   mem len: 750627   epsilon: 0.01   steps: 306   lr:
4e-07      reward: 9.74
epis: 2633   score: 10.0   mem len: 751098   epsilon: 0.01   steps: 471   lr:
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4e-07   reward: 9.74
epis: 2634   score: 11.0   mem len: 751671   epsilon: 0.01   steps: 573   lr:
4e-07   reward: 9.75
epis: 2635   score: 12.0   mem len: 752241   epsilon: 0.01   steps: 570   lr:
4e-07   reward: 9.8
epis: 2636   score: 8.0   mem len: 752648   epsilon: 0.01   steps: 407   lr:
4e-07   reward: 9.74
epis: 2637   score: 7.0   mem len: 753035   epsilon: 0.01   steps: 387   lr:
4e-07   reward: 9.66
epis: 2638   score: 14.0   mem len: 753596   epsilon: 0.01   steps: 561   lr:
4e-07   reward: 9.7
epis: 2639   score: 8.0   mem len: 754003   epsilon: 0.01   steps: 407   lr:
4e-07   reward: 9.7
epis: 2640   score: 8.0   mem len: 754410   epsilon: 0.01   steps: 407   lr:
4e-07   reward: 9.67
epis: 2641   score: 11.0   mem len: 754819   epsilon: 0.01   steps: 409   lr:
4e-07   reward: 9.64
epis: 2642   score: 10.0   mem len: 755321   epsilon: 0.01   steps: 502   lr:
4e-07   reward: 9.61
epis: 2643   score: 13.0   mem len: 755859   epsilon: 0.01   steps: 538   lr:
4e-07   reward: 9.63
epis: 2644   score: 10.0   mem len: 756348   epsilon: 0.01   steps: 489   lr:
4e-07   reward: 9.64
epis: 2645   score: 10.0   mem len: 756871   epsilon: 0.01   steps: 523   lr:
4e-07   reward: 9.67
epis: 2646   score: 11.0   mem len: 757422   epsilon: 0.01   steps: 551   lr:
4e-07   reward: 9.72
epis: 2647   score: 11.0   mem len: 757943   epsilon: 0.01   steps: 521   lr:
4e-07   reward: 9.72
epis: 2648   score: 6.0   mem len: 758301   epsilon: 0.01   steps: 358   lr:
4e-07   reward: 9.72
epis: 2649   score: 6.0   mem len: 758636   epsilon: 0.01   steps: 335   lr:
4e-07   reward: 9.62
epis: 2650   score: 5.0   mem len: 758942   epsilon: 0.01   steps: 306   lr:
4e-07   reward: 9.6
epis: 2651   score: 11.0   mem len: 759470   epsilon: 0.01   steps: 528   lr:
4e-07   reward: 9.62
epis: 2652   score: 12.0   mem len: 760007   epsilon: 0.01   steps: 537   lr:
4e-07   reward: 9.63
epis: 2653   score: 10.0   mem len: 760509   epsilon: 0.01   steps: 502   lr:
4e-07   reward: 9.64
epis: 2654   score: 9.0   mem len: 760955   epsilon: 0.01   steps: 446   lr:
4e-07   reward: 9.64
epis: 2655   score: 14.0   mem len: 761460   epsilon: 0.01   steps: 505   lr:
4e-07   reward: 9.65
epis: 2656   score: 6.0   mem len: 761813   epsilon: 0.01   steps: 353   lr:
4e-07   reward: 9.62
epis: 2657   score: 10.0   mem len: 762302   epsilon: 0.01   steps: 489   lr:

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4e-07      reward: 9.53
epis: 2658    score: 6.0    mem len: 762648    epsilon: 0.01    steps: 346    lr:
4e-07      reward: 9.47
epis: 2659    score: 6.0    mem len: 762989    epsilon: 0.01    steps: 341    lr:
4e-07      reward: 9.44
epis: 2660    score: 5.0    mem len: 763317    epsilon: 0.01    steps: 328    lr:
4e-07      reward: 9.37
epis: 2661    score: 5.0    mem len: 763645    epsilon: 0.01    steps: 328    lr:
4e-07      reward: 9.36
epis: 2662    score: 10.0    mem len: 764114    epsilon: 0.01    steps: 469    lr:
4e-07      reward: 9.26
epis: 2663    score: 6.0    mem len: 764472    epsilon: 0.01    steps: 358    lr:
4e-07      reward: 9.23
epis: 2664    score: 8.0    mem len: 764875    epsilon: 0.01    steps: 403    lr:
4e-07      reward: 9.27
epis: 2665    score: 8.0    mem len: 765292    epsilon: 0.01    steps: 417    lr:
4e-07      reward: 9.25
epis: 2666    score: 7.0    mem len: 765664    epsilon: 0.01    steps: 372    lr:
4e-07      reward: 9.23
epis: 2667    score: 9.0    mem len: 766119    epsilon: 0.01    steps: 455    lr:
4e-07      reward: 9.23
epis: 2668    score: 7.0    mem len: 766510    epsilon: 0.01    steps: 391    lr:
4e-07      reward: 9.21
epis: 2669    score: 10.0    mem len: 766999    epsilon: 0.01    steps: 489    lr:
4e-07      reward: 9.22
epis: 2670    score: 11.0    mem len: 767572    epsilon: 0.01    steps: 573    lr:
4e-07      reward: 9.24
epis: 2671    score: 9.0    mem len: 768044    epsilon: 0.01    steps: 472    lr:
4e-07      reward: 9.2
epis: 2672    score: 5.0    mem len: 768372    epsilon: 0.01    steps: 328    lr:
4e-07      reward: 9.14
epis: 2673    score: 8.0    mem len: 768772    epsilon: 0.01    steps: 400    lr:
4e-07      reward: 9.1
epis: 2674    score: 10.0    mem len: 769291    epsilon: 0.01    steps: 519    lr:
4e-07      reward: 9.05
epis: 2675    score: 11.0    mem len: 769838    epsilon: 0.01    steps: 547    lr:
4e-07      reward: 8.94
epis: 2676    score: 15.0    mem len: 770438    epsilon: 0.01    steps: 600    lr:
4e-07      reward: 8.98
epis: 2677    score: 18.0    mem len: 771068    epsilon: 0.01    steps: 630    lr:
4e-07      reward: 9.1
epis: 2678    score: 10.0    mem len: 771532    epsilon: 0.01    steps: 464    lr:
4e-07      reward: 9.12
epis: 2679    score: 6.0    mem len: 771856    epsilon: 0.01    steps: 324    lr:
4e-07      reward: 9.08
epis: 2680    score: 10.0    mem len: 772375    epsilon: 0.01    steps: 519    lr:
4e-07      reward: 9.07
epis: 2681    score: 10.0    mem len: 772894    epsilon: 0.01    steps: 519    lr:
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4e-07   reward: 9.07
epis: 2682   score: 10.0   mem len: 773413   epsilon: 0.01   steps: 519   lr:
4e-07   reward: 9.07
epis: 2683   score: 10.0   mem len: 773932   epsilon: 0.01   steps: 519   lr:
4e-07   reward: 9.06
epis: 2684   score: 10.0   mem len: 774451   epsilon: 0.01   steps: 519   lr:
4e-07   reward: 9.1
epis: 2685   score: 10.0   mem len: 774929   epsilon: 0.01   steps: 478   lr:
4e-07   reward: 9.08
epis: 2686   score: 8.0   mem len: 775346   epsilon: 0.01   steps: 417   lr:
4e-07   reward: 9.02
epis: 2687   score: 8.0   mem len: 775769   epsilon: 0.01   steps: 423   lr:
4e-07   reward: 9.02
epis: 2688   score: 11.0   mem len: 776314   epsilon: 0.01   steps: 545   lr:
4e-07   reward: 9.03
epis: 2689   score: 5.0   mem len: 776645   epsilon: 0.01   steps: 331   lr:
4e-07   reward: 8.98
epis: 2690   score: 12.0   mem len: 777220   epsilon: 0.01   steps: 575   lr:
4e-07   reward: 8.99
epis: 2691   score: 13.0   mem len: 777805   epsilon: 0.01   steps: 585   lr:
4e-07   reward: 9.03
epis: 2692   score: 10.0   mem len: 778292   epsilon: 0.01   steps: 487   lr:
4e-07   reward: 9.03
epis: 2693   score: 11.0   mem len: 778682   epsilon: 0.01   steps: 390   lr:
4e-07   reward: 9.09
epis: 2694   score: 10.0   mem len: 779201   epsilon: 0.01   steps: 519   lr:
4e-07   reward: 9.12
epis: 2695   score: 11.0   mem len: 779741   epsilon: 0.01   steps: 540   lr:
4e-07   reward: 9.18
epis: 2696   score: 5.0   mem len: 780049   epsilon: 0.01   steps: 308   lr:
4e-07   reward: 9.14
epis: 2697   score: 9.0   mem len: 780521   epsilon: 0.01   steps: 472   lr:
4e-07   reward: 9.13
epis: 2698   score: 10.0   mem len: 781040   epsilon: 0.01   steps: 519   lr:
4e-07   reward: 9.14
epis: 2699   score: 11.0   mem len: 781580   epsilon: 0.01   steps: 540   lr:
4e-07   reward: 9.15
epis: 2700   score: 10.0   mem len: 782041   epsilon: 0.01   steps: 461   lr:
4e-07   reward: 9.18
epis: 2701   score: 9.0   mem len: 782487   epsilon: 0.01   steps: 446   lr:
4e-07   reward: 9.21
epis: 2702   score: 9.0   mem len: 782938   epsilon: 0.01   steps: 451   lr:
4e-07   reward: 9.21
epis: 2703   score: 7.0   mem len: 783332   epsilon: 0.01   steps: 394   lr:
4e-07   reward: 9.19
epis: 2704   score: 8.0   mem len: 783755   epsilon: 0.01   steps: 423   lr:
4e-07   reward: 9.11
epis: 2705   score: 12.0   mem len: 784311   epsilon: 0.01   steps: 556   lr:

4e-07   reward: 9.14
epis: 2706   score: 21.0   mem len: 784964   epsilon: 0.01   steps: 653   lr:
4e-07   reward: 9.25
epis: 2707   score: 11.0   mem len: 785537   epsilon: 0.01   steps: 573   lr:
4e-07   reward: 9.3
epis: 2708   score: 7.0   mem len: 785887   epsilon: 0.01   steps: 350   lr:
4e-07   reward: 9.29
epis: 2709   score: 11.0   mem len: 786441   epsilon: 0.01   steps: 554   lr:
4e-07   reward: 9.32
epis: 2710   score: 7.0   mem len: 786827   epsilon: 0.01   steps: 386   lr:
4e-07   reward: 9.24
epis: 2711   score: 8.0   mem len: 787224   epsilon: 0.01   steps: 397   lr:
4e-07   reward: 9.25
epis: 2712   score: 9.0   mem len: 787670   epsilon: 0.01   steps: 446   lr:
4e-07   reward: 9.27
epis: 2713   score: 9.0   mem len: 788141   epsilon: 0.01   steps: 471   lr:
4e-07   reward: 9.26
epis: 2714   score: 9.0   mem len: 788613   epsilon: 0.01   steps: 472   lr:
4e-07   reward: 9.2
epis: 2715   score: 11.0   mem len: 789163   epsilon: 0.01   steps: 550   lr:
4e-07   reward: 9.2
epis: 2716   score: 9.0   mem len: 789598   epsilon: 0.01   steps: 435   lr:
4e-07   reward: 9.2
epis: 2717   score: 7.0   mem len: 789991   epsilon: 0.01   steps: 393   lr:
4e-07   reward: 9.21
epis: 2718   score: 9.0   mem len: 790486   epsilon: 0.01   steps: 495   lr:
4e-07   reward: 9.19
epis: 2719   score: 7.0   mem len: 790836   epsilon: 0.01   steps: 350   lr:
4e-07   reward: 9.18
epis: 2720   score: 10.0   mem len: 791355   epsilon: 0.01   steps: 519   lr:
4e-07   reward: 9.21
epis: 2721   score: 10.0   mem len: 791857   epsilon: 0.01   steps: 502   lr:
4e-07   reward: 9.22
epis: 2722   score: 7.0   mem len: 792248   epsilon: 0.01   steps: 391   lr:
4e-07   reward: 9.23
epis: 2723   score: 7.0   mem len: 792598   epsilon: 0.01   steps: 350   lr:
4e-07   reward: 9.24
epis: 2724   score: 9.0   mem len: 793053   epsilon: 0.01   steps: 455   lr:
4e-07   reward: 9.23
epis: 2725   score: 9.0   mem len: 793520   epsilon: 0.01   steps: 467   lr:
4e-07   reward: 9.23
epis: 2726   score: 7.0   mem len: 793870   epsilon: 0.01   steps: 350   lr:
4e-07   reward: 9.22
epis: 2727   score: 9.0   mem len: 794341   epsilon: 0.01   steps: 471   lr:
4e-07   reward: 9.22
epis: 2728   score: 6.0   mem len: 794685   epsilon: 0.01   steps: 344   lr:
4e-07   reward: 9.2
epis: 2729   score: 11.0   mem len: 795258   epsilon: 0.01   steps: 573   lr:

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4e-07     reward: 9.22
epis: 2730   score: 6.0   mem len: 795582   epsilon: 0.01   steps: 324   lr:
4e-07     reward: 9.21
epis: 2731   score: 10.0   mem len: 796053   epsilon: 0.01   steps: 471   lr:
4e-07     reward: 9.23
epis: 2732   score: 6.0   mem len: 796377   epsilon: 0.01   steps: 324   lr:
4e-07     reward: 9.24
epis: 2733   score: 12.0   mem len: 797012   epsilon: 0.01   steps: 635   lr:
4e-07     reward: 9.26
epis: 2734   score: 6.0   mem len: 797336   epsilon: 0.01   steps: 324   lr:
4e-07     reward: 9.21
epis: 2735   score: 12.0   mem len: 797911   epsilon: 0.01   steps: 575   lr:
4e-07     reward: 9.21
epis: 2736   score: 8.0   mem len: 798331   epsilon: 0.01   steps: 420   lr:
4e-07     reward: 9.21
epis: 2737   score: 8.0   mem len: 798751   epsilon: 0.01   steps: 420   lr:
4e-07     reward: 9.22
epis: 2738   score: 13.0   mem len: 799358   epsilon: 0.01   steps: 607   lr:
4e-07     reward: 9.21
epis: 2739   score: 6.0   mem len: 799684   epsilon: 0.01   steps: 326   lr:
4e-07     reward: 9.19
epis: 2740   score: 10.0   mem len: 800188   epsilon: 0.01   steps: 504   lr:
2e-07     reward: 9.21
epis: 2741   score: 6.0   mem len: 800514   epsilon: 0.01   steps: 326   lr:
2e-07     reward: 9.16
epis: 2742   score: 7.0   mem len: 800864   epsilon: 0.01   steps: 350   lr:
2e-07     reward: 9.13
epis: 2743   score: 5.0   mem len: 801174   epsilon: 0.01   steps: 310   lr:
2e-07     reward: 9.05
epis: 2744   score: 8.0   mem len: 801594   epsilon: 0.01   steps: 420   lr:
2e-07     reward: 9.03
epis: 2745   score: 7.0   mem len: 801944   epsilon: 0.01   steps: 350   lr:
2e-07     reward: 9.0
epis: 2746   score: 6.0   mem len: 802268   epsilon: 0.01   steps: 324   lr:
2e-07     reward: 8.95
epis: 2747   score: 6.0   mem len: 802592   epsilon: 0.01   steps: 324   lr:
2e-07     reward: 8.9
epis: 2748   score: 5.0   mem len: 802867   epsilon: 0.01   steps: 275   lr:
2e-07     reward: 8.89
epis: 2749   score: 5.0   mem len: 803142   epsilon: 0.01   steps: 275   lr:
2e-07     reward: 8.88
epis: 2750   score: 11.0   mem len: 803675   epsilon: 0.01   steps: 533   lr:
2e-07     reward: 8.94
epis: 2751   score: 9.0   mem len: 804146   epsilon: 0.01   steps: 471   lr:
2e-07     reward: 8.92
epis: 2752   score: 9.0   mem len: 804618   epsilon: 0.01   steps: 472   lr:
2e-07     reward: 8.89
epis: 2753   score: 10.0   mem len: 805122   epsilon: 0.01   steps: 504   lr:
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2e-07   reward: 8.89
epis: 2754   score: 10.0   mem len: 805626   epsilon: 0.01   steps: 504   lr:
2e-07   reward: 8.9
epis: 2755   score: 10.0   mem len: 806130   epsilon: 0.01   steps: 504   lr:
2e-07   reward: 8.86
epis: 2756   score: 6.0   mem len: 806454   epsilon: 0.01   steps: 324   lr:
2e-07   reward: 8.86
epis: 2757   score: 5.0   mem len: 806729   epsilon: 0.01   steps: 275   lr:
2e-07   reward: 8.81
epis: 2758   score: 5.0   mem len: 807004   epsilon: 0.01   steps: 275   lr:
2e-07   reward: 8.8
epis: 2759   score: 10.0   mem len: 807498   epsilon: 0.01   steps: 494   lr:
2e-07   reward: 8.84
epis: 2760   score: 8.0   mem len: 807908   epsilon: 0.01   steps: 410   lr:
2e-07   reward: 8.87
epis: 2761   score: 14.0   mem len: 808531   epsilon: 0.01   steps: 623   lr:
2e-07   reward: 8.96
epis: 2762   score: 5.0   mem len: 808806   epsilon: 0.01   steps: 275   lr:
2e-07   reward: 8.91
epis: 2763   score: 6.0   mem len: 809132   epsilon: 0.01   steps: 326   lr:
2e-07   reward: 8.91
epis: 2764   score: 7.0   mem len: 809482   epsilon: 0.01   steps: 350   lr:
2e-07   reward: 8.9
epis: 2765   score: 7.0   mem len: 809832   epsilon: 0.01   steps: 350   lr:
2e-07   reward: 8.89
epis: 2766   score: 9.0   mem len: 810345   epsilon: 0.01   steps: 513   lr:
2e-07   reward: 8.91
epis: 2767   score: 7.0   mem len: 810697   epsilon: 0.01   steps: 352   lr:
2e-07   reward: 8.89
epis: 2768   score: 11.0   mem len: 811207   epsilon: 0.01   steps: 510   lr:
2e-07   reward: 8.93
epis: 2769   score: 13.0   mem len: 811828   epsilon: 0.01   steps: 621   lr:
2e-07   reward: 8.96
epis: 2770   score: 7.0   mem len: 812178   epsilon: 0.01   steps: 350   lr:
2e-07   reward: 8.92
epis: 2771   score: 8.0   mem len: 812624   epsilon: 0.01   steps: 446   lr:
2e-07   reward: 8.91
epis: 2772   score: 8.0   mem len: 813070   epsilon: 0.01   steps: 446   lr:
2e-07   reward: 8.94
epis: 2773   score: 8.0   mem len: 813516   epsilon: 0.01   steps: 446   lr:
2e-07   reward: 8.94
epis: 2774   score: 10.0   mem len: 814020   epsilon: 0.01   steps: 504   lr:
2e-07   reward: 8.94
epis: 2775   score: 7.0   mem len: 814370   epsilon: 0.01   steps: 350   lr:
2e-07   reward: 8.9
epis: 2776   score: 5.0   mem len: 814678   epsilon: 0.01   steps: 308   lr:
2e-07   reward: 8.8
epis: 2777   score: 10.0   mem len: 815180   epsilon: 0.01   steps: 502   lr:

2e-07   reward: 8.72
epis: 2778   score: 5.0   mem len: 815490   epsilon: 0.01   steps: 310   lr:
2e-07   reward: 8.67
epis: 2779   score: 9.0   mem len: 815928   epsilon: 0.01   steps: 438   lr:
2e-07   reward: 8.7
epis: 2780   score: 11.0   mem len: 816478   epsilon: 0.01   steps: 550   lr:
2e-07   reward: 8.71
epis: 2781   score: 6.0   mem len: 816802   epsilon: 0.01   steps: 324   lr:
2e-07   reward: 8.67
epis: 2782   score: 9.0   mem len: 817275   epsilon: 0.01   steps: 473   lr:
2e-07   reward: 8.66
epis: 2783   score: 5.0   mem len: 817585   epsilon: 0.01   steps: 310   lr:
2e-07   reward: 8.61
epis: 2784   score: 5.0   mem len: 817895   epsilon: 0.01   steps: 310   lr:
2e-07   reward: 8.56
epis: 2785   score: 5.0   mem len: 818185   epsilon: 0.01   steps: 290   lr:
2e-07   reward: 8.51
epis: 2786   score: 5.0   mem len: 818477   epsilon: 0.01   steps: 292   lr:
2e-07   reward: 8.48
epis: 2787   score: 5.0   mem len: 818769   epsilon: 0.01   steps: 292   lr:
2e-07   reward: 8.45
epis: 2788   score: 5.0   mem len: 819079   epsilon: 0.01   steps: 310   lr:
2e-07   reward: 8.39
epis: 2789   score: 9.0   mem len: 819517   epsilon: 0.01   steps: 438   lr:
2e-07   reward: 8.43
epis: 2790   score: 5.0   mem len: 819827   epsilon: 0.01   steps: 310   lr:
2e-07   reward: 8.36
epis: 2791   score: 10.0   mem len: 820329   epsilon: 0.01   steps: 502   lr:
2e-07   reward: 8.33
epis: 2792   score: 6.0   mem len: 820639   epsilon: 0.01   steps: 310   lr:
2e-07   reward: 8.29
epis: 2793   score: 9.0   mem len: 821060   epsilon: 0.01   steps: 421   lr:
2e-07   reward: 8.27
epis: 2794   score: 9.0   mem len: 821531   epsilon: 0.01   steps: 471   lr:
2e-07   reward: 8.26
epis: 2795   score: 9.0   mem len: 821990   epsilon: 0.01   steps: 459   lr:
2e-07   reward: 8.24
epis: 2796   score: 11.0   mem len: 822389   epsilon: 0.01   steps: 399   lr:
2e-07   reward: 8.3
epis: 2797   score: 6.0   mem len: 822731   epsilon: 0.01   steps: 342   lr:
2e-07   reward: 8.27
epis: 2798   score: 6.0   mem len: 823073   epsilon: 0.01   steps: 342   lr:
2e-07   reward: 8.23
epis: 2799   score: 7.0   mem len: 823465   epsilon: 0.01   steps: 392   lr:
2e-07   reward: 8.19
epis: 2800   score: 10.0   mem len: 823969   epsilon: 0.01   steps: 504   lr:
2e-07   reward: 8.19
epis: 2801   score: 8.0   mem len: 824389   epsilon: 0.01   steps: 420   lr:

2e-07   reward: 8.18
epis: 2802   score: 5.0   mem len: 824664   epsilon: 0.01   steps: 275   lr:
2e-07   reward: 8.14
epis: 2803   score: 9.0   mem len: 825136   epsilon: 0.01   steps: 472   lr:
2e-07   reward: 8.16
epis: 2804   score: 9.0   mem len: 825603   epsilon: 0.01   steps: 467   lr:
2e-07   reward: 8.17
epis: 2805   score: 7.0   mem len: 825996   epsilon: 0.01   steps: 393   lr:
2e-07   reward: 8.12
epis: 2806   score: 10.0   mem len: 826519   epsilon: 0.01   steps: 523   lr:
2e-07   reward: 8.01
epis: 2807   score: 10.0   mem len: 827023   epsilon: 0.01   steps: 504   lr:
2e-07   reward: 8.0
epis: 2808   score: 5.0   mem len: 827333   epsilon: 0.01   steps: 310   lr:
2e-07   reward: 7.98
epis: 2809   score: 10.0   mem len: 827802   epsilon: 0.01   steps: 469   lr:
2e-07   reward: 7.97
epis: 2810   score: 5.0   mem len: 828112   epsilon: 0.01   steps: 310   lr:
2e-07   reward: 7.95
epis: 2811   score: 5.0   mem len: 828422   epsilon: 0.01   steps: 310   lr:
2e-07   reward: 7.92
epis: 2812   score: 6.0   mem len: 828750   epsilon: 0.01   steps: 328   lr:
2e-07   reward: 7.89
epis: 2813   score: 5.0   mem len: 829060   epsilon: 0.01   steps: 310   lr:
2e-07   reward: 7.85
epis: 2814   score: 5.0   mem len: 829370   epsilon: 0.01   steps: 310   lr:
2e-07   reward: 7.81
epis: 2815   score: 5.0   mem len: 829680   epsilon: 0.01   steps: 310   lr:
2e-07   reward: 7.75
epis: 2816   score: 5.0   mem len: 829990   epsilon: 0.01   steps: 310   lr:
2e-07   reward: 7.71
epis: 2817   score: 12.0   mem len: 830426   epsilon: 0.01   steps: 436   lr:
2e-07   reward: 7.76
epis: 2818   score: 8.0   mem len: 830847   epsilon: 0.01   steps: 421   lr:
2e-07   reward: 7.75
epis: 2819   score: 13.0   mem len: 831284   epsilon: 0.01   steps: 437   lr:
2e-07   reward: 7.81
epis: 2820   score: 9.0   mem len: 831756   epsilon: 0.01   steps: 472   lr:
2e-07   reward: 7.8
epis: 2821   score: 9.0   mem len: 832227   epsilon: 0.01   steps: 471   lr:
2e-07   reward: 7.79
epis: 2822   score: 8.0   mem len: 832677   epsilon: 0.01   steps: 450   lr:
2e-07   reward: 7.8
epis: 2823   score: 9.0   mem len: 833148   epsilon: 0.01   steps: 471   lr:
2e-07   reward: 7.82
epis: 2824   score: 6.0   mem len: 833474   epsilon: 0.01   steps: 326   lr:
2e-07   reward: 7.79
epis: 2825   score: 10.0   mem len: 833996   epsilon: 0.01   steps: 522   lr:

2e-07   reward: 7.8
epis: 2826   score: 6.0   mem len: 834338   epsilon: 0.01   steps: 342   lr:
2e-07   reward: 7.79
epis: 2827   score: 7.0   mem len: 834688   epsilon: 0.01   steps: 350   lr:
2e-07   reward: 7.77
epis: 2828   score: 5.0   mem len: 834963   epsilon: 0.01   steps: 275   lr:
2e-07   reward: 7.76
epis: 2829   score: 5.0   mem len: 835238   epsilon: 0.01   steps: 275   lr:
2e-07   reward: 7.7
epis: 2830   score: 13.0   mem len: 835729   epsilon: 0.01   steps: 491   lr:
2e-07   reward: 7.77
epis: 2831   score: 5.0   mem len: 836021   epsilon: 0.01   steps: 292   lr:
2e-07   reward: 7.72
epis: 2832   score: 7.0   mem len: 836414   epsilon: 0.01   steps: 393   lr:
2e-07   reward: 7.73
epis: 2833   score: 10.0   mem len: 836914   epsilon: 0.01   steps: 500   lr:
2e-07   reward: 7.71
epis: 2834   score: 9.0   mem len: 837311   epsilon: 0.01   steps: 397   lr:
2e-07   reward: 7.74
epis: 2835   score: 12.0   mem len: 837872   epsilon: 0.01   steps: 561   lr:
2e-07   reward: 7.74
epis: 2836   score: 10.0   mem len: 838335   epsilon: 0.01   steps: 463   lr:
2e-07   reward: 7.76
epis: 2837   score: 8.0   mem len: 838742   epsilon: 0.01   steps: 407   lr:
2e-07   reward: 7.76
epis: 2838   score: 11.0   mem len: 839262   epsilon: 0.01   steps: 520   lr:
2e-07   reward: 7.74
epis: 2839   score: 8.0   mem len: 839691   epsilon: 0.01   steps: 429   lr:
2e-07   reward: 7.76
epis: 2840   score: 9.0   mem len: 840152   epsilon: 0.01   steps: 461   lr:
2e-07   reward: 7.75
epis: 2841   score: 11.0   mem len: 840672   epsilon: 0.01   steps: 520   lr:
2e-07   reward: 7.8
epis: 2842   score: 16.0   mem len: 841223   epsilon: 0.01   steps: 551   lr:
2e-07   reward: 7.89
epis: 2843   score: 9.0   mem len: 841695   epsilon: 0.01   steps: 472   lr:
2e-07   reward: 7.93
epis: 2844   score: 10.0   mem len: 842218   epsilon: 0.01   steps: 523   lr:
2e-07   reward: 7.95
epis: 2845   score: 12.0   mem len: 842771   epsilon: 0.01   steps: 553   lr:
2e-07   reward: 8.0
epis: 2846   score: 10.0   mem len: 843290   epsilon: 0.01   steps: 519   lr:
2e-07   reward: 8.04
epis: 2847   score: 10.0   mem len: 843809   epsilon: 0.01   steps: 519   lr:
2e-07   reward: 8.08
epis: 2848   score: 9.0   mem len: 844263   epsilon: 0.01   steps: 454   lr:
2e-07   reward: 8.12
epis: 2849   score: 10.0   mem len: 844782   epsilon: 0.01   steps: 519   lr:

2e-07   reward: 8.17
epis: 2850   score: 7.0   mem len: 845123   epsilon: 0.01   steps: 341   lr:
2e-07   reward: 8.13
epis: 2851   score: 6.0   mem len: 845465   epsilon: 0.01   steps: 342   lr:
2e-07   reward: 8.1
epis: 2852   score: 7.0   mem len: 845875   epsilon: 0.01   steps: 410   lr:
2e-07   reward: 8.08
epis: 2853   score: 12.0   mem len: 846311   epsilon: 0.01   steps: 436   lr:
2e-07   reward: 8.1
epis: 2854   score: 7.0   mem len: 846702   epsilon: 0.01   steps: 391   lr:
2e-07   reward: 8.07
epis: 2855   score: 11.0   mem len: 847235   epsilon: 0.01   steps: 533   lr:
2e-07   reward: 8.08
epis: 2856   score: 8.0   mem len: 847681   epsilon: 0.01   steps: 446   lr:
2e-07   reward: 8.1
epis: 2857   score: 6.0   mem len: 848023   epsilon: 0.01   steps: 342   lr:
2e-07   reward: 8.11
epis: 2858   score: 10.0   mem len: 848542   epsilon: 0.01   steps: 519   lr:
2e-07   reward: 8.16
epis: 2859   score: 9.0   mem len: 848996   epsilon: 0.01   steps: 454   lr:
2e-07   reward: 8.15
epis: 2860   score: 9.0   mem len: 849452   epsilon: 0.01   steps: 456   lr:
2e-07   reward: 8.16
epis: 2861   score: 14.0   mem len: 850104   epsilon: 0.01   steps: 652   lr:
2e-07   reward: 8.16
epis: 2862   score: 11.0   mem len: 850640   epsilon: 0.01   steps: 536   lr:
2e-07   reward: 8.22
epis: 2863   score: 10.0   mem len: 851126   epsilon: 0.01   steps: 486   lr:
2e-07   reward: 8.26
epis: 2864   score: 11.0   mem len: 851661   epsilon: 0.01   steps: 535   lr:
2e-07   reward: 8.3
epis: 2865   score: 11.0   mem len: 852215   epsilon: 0.01   steps: 554   lr:
2e-07   reward: 8.34
epis: 2866   score: 13.0   mem len: 852835   epsilon: 0.01   steps: 620   lr:
2e-07   reward: 8.38
epis: 2867   score: 9.0   mem len: 853290   epsilon: 0.01   steps: 455   lr:
2e-07   reward: 8.4
epis: 2868   score: 7.0   mem len: 853682   epsilon: 0.01   steps: 392   lr:
2e-07   reward: 8.36
epis: 2869   score: 9.0   mem len: 854149   epsilon: 0.01   steps: 467   lr:
2e-07   reward: 8.32
epis: 2870   score: 10.0   mem len: 854653   epsilon: 0.01   steps: 504   lr:
2e-07   reward: 8.35
epis: 2871   score: 12.0   mem len: 855223   epsilon: 0.01   steps: 570   lr:
2e-07   reward: 8.39
epis: 2872   score: 5.0   mem len: 855533   epsilon: 0.01   steps: 310   lr:
2e-07   reward: 8.36
epis: 2873   score: 5.0   mem len: 855843   epsilon: 0.01   steps: 310   lr:

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2e-07     reward: 8.33
epis: 2874   score: 6.0   mem len: 856166   epsilon: 0.01   steps: 323   lr:
2e-07     reward: 8.29
epis: 2875   score: 10.0   mem len: 856648   epsilon: 0.01   steps: 482   lr:
2e-07     reward: 8.32
epis: 2876   score: 10.0   mem len: 857152   epsilon: 0.01   steps: 504   lr:
2e-07     reward: 8.37
epis: 2877   score: 8.0   mem len: 857598   epsilon: 0.01   steps: 446   lr:
2e-07     reward: 8.35
epis: 2878   score: 12.0   mem len: 858173   epsilon: 0.01   steps: 575   lr:
2e-07     reward: 8.42
epis: 2879   score: 5.0   mem len: 858465   epsilon: 0.01   steps: 292   lr:
2e-07     reward: 8.38
epis: 2880   score: 5.0   mem len: 858775   epsilon: 0.01   steps: 310   lr:
2e-07     reward: 8.32
epis: 2881   score: 6.0   mem len: 859119   epsilon: 0.01   steps: 344   lr:
2e-07     reward: 8.32
epis: 2882   score: 7.0   mem len: 859547   epsilon: 0.01   steps: 428   lr:
2e-07     reward: 8.3
epis: 2883   score: 10.0   mem len: 860070   epsilon: 0.01   steps: 523   lr:
2e-07     reward: 8.35
epis: 2884   score: 9.0   mem len: 860583   epsilon: 0.01   steps: 513   lr:
2e-07     reward: 8.39
epis: 2885   score: 10.0   mem len: 861065   epsilon: 0.01   steps: 482   lr:
2e-07     reward: 8.44
epis: 2886   score: 10.0   mem len: 861565   epsilon: 0.01   steps: 500   lr:
2e-07     reward: 8.49
epis: 2887   score: 5.0   mem len: 861875   epsilon: 0.01   steps: 310   lr:
2e-07     reward: 8.49
epis: 2888   score: 5.0   mem len: 862185   epsilon: 0.01   steps: 310   lr:
2e-07     reward: 8.49
epis: 2889   score: 12.0   mem len: 862715   epsilon: 0.01   steps: 530   lr:
2e-07     reward: 8.52
epis: 2890   score: 7.0   mem len: 863107   epsilon: 0.01   steps: 392   lr:
2e-07     reward: 8.54
epis: 2891   score: 11.0   mem len: 863506   epsilon: 0.01   steps: 399   lr:
2e-07     reward: 8.55
epis: 2892   score: 6.0   mem len: 863848   epsilon: 0.01   steps: 342   lr:
2e-07     reward: 8.55
epis: 2893   score: 7.0   mem len: 864261   epsilon: 0.01   steps: 413   lr:
2e-07     reward: 8.53
epis: 2894   score: 9.0   mem len: 864687   epsilon: 0.01   steps: 426   lr:
2e-07     reward: 8.53
epis: 2895   score: 10.0   mem len: 865206   epsilon: 0.01   steps: 519   lr:
2e-07     reward: 8.54
epis: 2896   score: 9.0   mem len: 865646   epsilon: 0.01   steps: 440   lr:
2e-07     reward: 8.52
epis: 2897   score: 12.0   mem len: 866225   epsilon: 0.01   steps: 579   lr:
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2e-07   reward: 8.58
epis: 2898   score: 8.0   mem len: 866662   epsilon: 0.01   steps: 437   lr:
2e-07   reward: 8.6
epis: 2899   score: 6.0   mem len: 867002   epsilon: 0.01   steps: 340   lr:
2e-07   reward: 8.59
epis: 2900   score: 8.0   mem len: 867425   epsilon: 0.01   steps: 423   lr:
2e-07   reward: 8.57
epis: 2901   score: 13.0   mem len: 867862   epsilon: 0.01   steps: 437   lr:
2e-07   reward: 8.62
epis: 2902   score: 8.0   mem len: 868285   epsilon: 0.01   steps: 423   lr:
2e-07   reward: 8.65
epis: 2903   score: 11.0   mem len: 868805   epsilon: 0.01   steps: 520   lr:
2e-07   reward: 8.67
epis: 2904   score: 8.0   mem len: 869238   epsilon: 0.01   steps: 433   lr:
2e-07   reward: 8.66
epis: 2905   score: 7.0   mem len: 869667   epsilon: 0.01   steps: 429   lr:
2e-07   reward: 8.66
epis: 2906   score: 7.0   mem len: 870043   epsilon: 0.01   steps: 376   lr:
2e-07   reward: 8.63
epis: 2907   score: 9.0   mem len: 870497   epsilon: 0.01   steps: 454   lr:
2e-07   reward: 8.62
epis: 2908   score: 10.0   mem len: 870999   epsilon: 0.01   steps: 502   lr:
2e-07   reward: 8.67
epis: 2909   score: 9.0   mem len: 871469   epsilon: 0.01   steps: 470   lr:
2e-07   reward: 8.66
epis: 2910   score: 6.0   mem len: 871779   epsilon: 0.01   steps: 310   lr:
2e-07   reward: 8.67
epis: 2911   score: 9.0   mem len: 872251   epsilon: 0.01   steps: 472   lr:
2e-07   reward: 8.71
epis: 2912   score: 11.0   mem len: 872771   epsilon: 0.01   steps: 520   lr:
2e-07   reward: 8.76
epis: 2913   score: 15.0   mem len: 873303   epsilon: 0.01   steps: 532   lr:
2e-07   reward: 8.86
epis: 2914   score: 10.0   mem len: 873792   epsilon: 0.01   steps: 489   lr:
2e-07   reward: 8.91
epis: 2915   score: 16.0   mem len: 874343   epsilon: 0.01   steps: 551   lr:
2e-07   reward: 9.02
epis: 2916   score: 11.0   mem len: 874843   epsilon: 0.01   steps: 500   lr:
2e-07   reward: 9.08
epis: 2917   score: 16.0   mem len: 875394   epsilon: 0.01   steps: 551   lr:
2e-07   reward: 9.12
epis: 2918   score: 10.0   mem len: 875852   epsilon: 0.01   steps: 458   lr:
2e-07   reward: 9.14
epis: 2919   score: 14.0   mem len: 876467   epsilon: 0.01   steps: 615   lr:
2e-07   reward: 9.15
epis: 2920   score: 9.0   mem len: 876913   epsilon: 0.01   steps: 446   lr:
2e-07   reward: 9.15
epis: 2921   score: 8.0   mem len: 877359   epsilon: 0.01   steps: 446   lr:

2e-07   reward: 9.14
epis: 2922   score: 11.0   mem len: 877903   epsilon: 0.01   steps: 544   lr:
2e-07   reward: 9.17
epis: 2923   score: 10.0   mem len: 878361   epsilon: 0.01   steps: 458   lr:
2e-07   reward: 9.18
epis: 2924   score: 14.0   mem len: 878876   epsilon: 0.01   steps: 515   lr:
2e-07   reward: 9.26
epis: 2925   score: 15.0   mem len: 879408   epsilon: 0.01   steps: 532   lr:
2e-07   reward: 9.31
epis: 2926   score: 9.0   mem len: 879891   epsilon: 0.01   steps: 483   lr:
2e-07   reward: 9.34
epis: 2927   score: 10.0   mem len: 880380   epsilon: 0.01   steps: 489   lr:
2e-07   reward: 9.37
epis: 2928   score: 10.0   mem len: 880869   epsilon: 0.01   steps: 489   lr:
2e-07   reward: 9.42
epis: 2929   score: 10.0   mem len: 881358   epsilon: 0.01   steps: 489   lr:
2e-07   reward: 9.47
epis: 2930   score: 14.0   mem len: 881860   epsilon: 0.01   steps: 502   lr:
2e-07   reward: 9.48
epis: 2931   score: 8.0   mem len: 882320   epsilon: 0.01   steps: 460   lr:
2e-07   reward: 9.51
epis: 2932   score: 9.0   mem len: 882766   epsilon: 0.01   steps: 446   lr:
2e-07   reward: 9.53
epis: 2933   score: 7.0   mem len: 883159   epsilon: 0.01   steps: 393   lr:
2e-07   reward: 9.5
epis: 2934   score: 9.0   mem len: 883613   epsilon: 0.01   steps: 454   lr:
2e-07   reward: 9.5
epis: 2935   score: 7.0   mem len: 884021   epsilon: 0.01   steps: 408   lr:
2e-07   reward: 9.45
epis: 2936   score: 11.0   mem len: 884541   epsilon: 0.01   steps: 520   lr:
2e-07   reward: 9.46
epis: 2937   score: 9.0   mem len: 884994   epsilon: 0.01   steps: 453   lr:
2e-07   reward: 9.47
epis: 2938   score: 9.0   mem len: 885448   epsilon: 0.01   steps: 454   lr:
2e-07   reward: 9.45
epis: 2939   score: 21.0   mem len: 886139   epsilon: 0.01   steps: 691   lr:
2e-07   reward: 9.58
epis: 2940   score: 7.0   mem len: 886489   epsilon: 0.01   steps: 350   lr:
2e-07   reward: 9.56
epis: 2941   score: 8.0   mem len: 886908   epsilon: 0.01   steps: 419   lr:
2e-07   reward: 9.53
epis: 2942   score: 6.0   mem len: 887232   epsilon: 0.01   steps: 324   lr:
2e-07   reward: 9.43
epis: 2943   score: 10.0   mem len: 887719   epsilon: 0.01   steps: 487   lr:
2e-07   reward: 9.44
epis: 2944   score: 12.0   mem len: 888297   epsilon: 0.01   steps: 578   lr:
2e-07   reward: 9.46
epis: 2945   score: 11.0   mem len: 888799   epsilon: 0.01   steps: 502   lr:

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2e-07     reward: 9.45
epis: 2946    score: 12.0    mem len: 889388    epsilon: 0.01    steps: 589    lr:
2e-07     reward: 9.47
epis: 2947    score: 13.0    mem len: 889994    epsilon: 0.01    steps: 606    lr:
2e-07     reward: 9.5
epis: 2948    score: 10.0    mem len: 890498    epsilon: 0.01    steps: 504    lr:
2e-07     reward: 9.51
epis: 2949    score: 17.0    mem len: 891111    epsilon: 0.01    steps: 613    lr:
2e-07     reward: 9.58
epis: 2950    score: 9.0    mem len: 891583    epsilon: 0.01    steps: 472    lr:
2e-07     reward: 9.6
epis: 2951    score: 12.0    mem len: 892136    epsilon: 0.01    steps: 553    lr:
2e-07     reward: 9.66
epis: 2952    score: 10.0    mem len: 892640    epsilon: 0.01    steps: 504    lr:
2e-07     reward: 9.69
epis: 2953    score: 10.0    mem len: 893122    epsilon: 0.01    steps: 482    lr:
2e-07     reward: 9.67
epis: 2954    score: 11.0    mem len: 893655    epsilon: 0.01    steps: 533    lr:
2e-07     reward: 9.71
epis: 2955    score: 10.0    mem len: 894159    epsilon: 0.01    steps: 504    lr:
2e-07     reward: 9.7
epis: 2956    score: 13.0    mem len: 894779    epsilon: 0.01    steps: 620    lr:
2e-07     reward: 9.75
epis: 2957    score: 10.0    mem len: 895296    epsilon: 0.01    steps: 517    lr:
2e-07     reward: 9.79
epis: 2958    score: 5.0    mem len: 895606    epsilon: 0.01    steps: 310    lr:
2e-07     reward: 9.74
epis: 2959    score: 9.0    mem len: 896101    epsilon: 0.01    steps: 495    lr:
2e-07     reward: 9.74
epis: 2960    score: 4.0    mem len: 896362    epsilon: 0.01    steps: 261    lr:
2e-07     reward: 9.69
epis: 2961    score: 4.0    mem len: 896623    epsilon: 0.01    steps: 261    lr:
2e-07     reward: 9.59
epis: 2962    score: 5.0    mem len: 896915    epsilon: 0.01    steps: 292    lr:
2e-07     reward: 9.53
epis: 2963    score: 11.0    mem len: 897391    epsilon: 0.01    steps: 476    lr:
2e-07     reward: 9.54
epis: 2964    score: 8.0    mem len: 897818    epsilon: 0.01    steps: 427    lr:
2e-07     reward: 9.51
epis: 2965    score: 7.0    mem len: 898211    epsilon: 0.01    steps: 393    lr:
2e-07     reward: 9.47
epis: 2966    score: 11.0    mem len: 898761    epsilon: 0.01    steps: 550    lr:
2e-07     reward: 9.45
epis: 2967    score: 11.0    mem len: 899311    epsilon: 0.01    steps: 550    lr:
2e-07     reward: 9.47
epis: 2968    score: 13.0    mem len: 899917    epsilon: 0.01    steps: 606    lr:
2e-07     reward: 9.53
epis: 2969    score: 13.0    mem len: 900354    epsilon: 0.01    steps: 437    lr:
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1e-07   reward: 9.57
epis: 2970   score: 13.0   mem len: 900791   epsilon: 0.01   steps: 437   lr:
1e-07   reward: 9.6
epis: 2971   score: 13.0   mem len: 901397   epsilon: 0.01   steps: 606   lr:
1e-07   reward: 9.61
epis: 2972   score: 13.0   mem len: 902003   epsilon: 0.01   steps: 606   lr:
1e-07   reward: 9.69
epis: 2973   score: 11.0   mem len: 902536   epsilon: 0.01   steps: 533   lr:
1e-07   reward: 9.75
epis: 2974   score: 9.0   mem len: 903049   epsilon: 0.01   steps: 513   lr:
1e-07   reward: 9.78
epis: 2975   score: 10.0   mem len: 903568   epsilon: 0.01   steps: 519   lr:
1e-07   reward: 9.78
epis: 2976   score: 9.0   mem len: 904067   epsilon: 0.01   steps: 499   lr:
1e-07   reward: 9.77
epis: 2977   score: 10.0   mem len: 904549   epsilon: 0.01   steps: 482   lr:
1e-07   reward: 9.79
epis: 2978   score: 11.0   mem len: 905082   epsilon: 0.01   steps: 533   lr:
1e-07   reward: 9.78
epis: 2979   score: 10.0   mem len: 905564   epsilon: 0.01   steps: 482   lr:
1e-07   reward: 9.83
epis: 2980   score: 10.0   mem len: 906104   epsilon: 0.01   steps: 540   lr:
1e-07   reward: 9.88
epis: 2981   score: 11.0   mem len: 906637   epsilon: 0.01   steps: 533   lr:
1e-07   reward: 9.93
epis: 2982   score: 9.0   mem len: 907150   epsilon: 0.01   steps: 513   lr:
1e-07   reward: 9.95
epis: 2983   score: 7.0   mem len: 907558   epsilon: 0.01   steps: 408   lr:
1e-07   reward: 9.92
epis: 2984   score: 10.0   mem len: 908081   epsilon: 0.01   steps: 523   lr:
1e-07   reward: 9.93
epis: 2985   score: 6.0   mem len: 908423   epsilon: 0.01   steps: 342   lr:
1e-07   reward: 9.89
epis: 2986   score: 13.0   mem len: 909039   epsilon: 0.01   steps: 616   lr:
1e-07   reward: 9.92
epis: 2987   score: 8.0   mem len: 909458   epsilon: 0.01   steps: 419   lr:
1e-07   reward: 9.95
epis: 2988   score: 10.0   mem len: 909940   epsilon: 0.01   steps: 482   lr:
1e-07   reward: 10.0
epis: 2989   score: 10.0   mem len: 910433   epsilon: 0.01   steps: 493   lr:
1e-07   reward: 9.98
epis: 2990   score: 10.0   mem len: 910891   epsilon: 0.01   steps: 458   lr:
1e-07   reward: 10.01
epis: 2991   score: 10.0   mem len: 911349   epsilon: 0.01   steps: 458   lr:
1e-07   reward: 10.0
epis: 2992   score: 12.0   mem len: 911904   epsilon: 0.01   steps: 555   lr:
1e-07   reward: 10.06
epis: 2993   score: 9.0   mem len: 912358   epsilon: 0.01   steps: 454   lr:

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1e-07     reward: 10.08
epis: 2994   score: 10.0   mem len: 912816   epsilon: 0.01    steps: 458    lr:
1e-07     reward: 10.09
epis: 2995   score: 11.0   mem len: 913360   epsilon: 0.01    steps: 544    lr:
1e-07     reward: 10.1
epis: 2996   score: 6.0   mem len: 913702   epsilon: 0.01    steps: 342    lr:
1e-07     reward: 10.07
epis: 2997   score: 12.0   mem len: 914291   epsilon: 0.01    steps: 589    lr:
1e-07     reward: 10.07
epis: 2998   score: 10.0   mem len: 914749   epsilon: 0.01    steps: 458    lr:
1e-07     reward: 10.09
epis: 2999   score: 11.0   mem len: 915185   epsilon: 0.01    steps: 436    lr:
1e-07     reward: 10.14
epis: 3000   score: 10.0   mem len: 915643   epsilon: 0.01    steps: 458    lr:
1e-07     reward: 10.16
epis: 3001   score: 12.0   mem len: 916224   epsilon: 0.01    steps: 581    lr:
1e-07     reward: 10.15
epis: 3002   score: 12.0   mem len: 916775   epsilon: 0.01    steps: 551    lr:
1e-07     reward: 10.19
epis: 3003   score: 12.0   mem len: 917326   epsilon: 0.01    steps: 551    lr:
1e-07     reward: 10.2
epis: 3004   score: 11.0   mem len: 917881   epsilon: 0.01    steps: 555    lr:
1e-07     reward: 10.23
epis: 3005   score: 9.0   mem len: 918310   epsilon: 0.01    steps: 429    lr:
1e-07     reward: 10.25
epis: 3006   score: 9.0   mem len: 918796   epsilon: 0.01    steps: 486    lr:
1e-07     reward: 10.27
epis: 3007   score: 11.0   mem len: 919326   epsilon: 0.01    steps: 530    lr:
1e-07     reward: 10.29
epis: 3008   score: 11.0   mem len: 919828   epsilon: 0.01    steps: 502    lr:
1e-07     reward: 10.3
epis: 3009   score: 11.0   mem len: 920330   epsilon: 0.01    steps: 502    lr:
1e-07     reward: 10.32
epis: 3010   score: 12.0   mem len: 920881   epsilon: 0.01    steps: 551    lr:
1e-07     reward: 10.38
epis: 3011   score: 9.0   mem len: 921364   epsilon: 0.01    steps: 483    lr:
1e-07     reward: 10.38
epis: 3012   score: 15.0   mem len: 921890   epsilon: 0.01    steps: 526    lr:
1e-07     reward: 10.42
epis: 3013   score: 11.0   mem len: 922440   epsilon: 0.01    steps: 550    lr:
1e-07     reward: 10.38
epis: 3014   score: 12.0   mem len: 923007   epsilon: 0.01    steps: 567    lr:
1e-07     reward: 10.4
epis: 3015   score: 15.0   mem len: 923533   epsilon: 0.01    steps: 526    lr:
1e-07     reward: 10.39
epis: 3016   score: 9.0   mem len: 924004   epsilon: 0.01    steps: 471    lr:
1e-07     reward: 10.37
epis: 3017   score: 9.0   mem len: 924476   epsilon: 0.01    steps: 472    lr:
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1e-07      reward: 10.3
epis: 3018   score: 9.0   mem len: 924902   epsilon: 0.01   steps: 426    lr:
1e-07      reward: 10.29
epis: 3019   score: 9.0   mem len: 925369   epsilon: 0.01   steps: 467    lr:
1e-07      reward: 10.24
epis: 3020   score: 8.0   mem len: 925812   epsilon: 0.01   steps: 443    lr:
1e-07      reward: 10.23
epis: 3021   score: 8.0   mem len: 926258   epsilon: 0.01   steps: 446    lr:
1e-07      reward: 10.23
epis: 3022   score: 10.0   mem len: 926751   epsilon: 0.01   steps: 493    lr:
1e-07      reward: 10.22
epis: 3023   score: 8.0   mem len: 927194   epsilon: 0.01   steps: 443    lr:
1e-07      reward: 10.2
epis: 3024   score: 11.0   mem len: 927687   epsilon: 0.01   steps: 493    lr:
1e-07      reward: 10.17
epis: 3025   score: 9.0   mem len: 928141   epsilon: 0.01   steps: 454    lr:
1e-07      reward: 10.11
epis: 3026   score: 11.0   mem len: 928691   epsilon: 0.01   steps: 550    lr:
1e-07      reward: 10.13
epis: 3027   score: 10.0   mem len: 929195   epsilon: 0.01   steps: 504    lr:
1e-07      reward: 10.13
epis: 3028   score: 10.0   mem len: 929668   epsilon: 0.01   steps: 473    lr:
1e-07      reward: 10.13
epis: 3029   score: 9.0   mem len: 930145   epsilon: 0.01   steps: 477    lr:
1e-07      reward: 10.12
epis: 3030   score: 6.0   mem len: 930485   epsilon: 0.01   steps: 340    lr:
1e-07      reward: 10.04
epis: 3031   score: 11.0   mem len: 930998   epsilon: 0.01   steps: 513    lr:
1e-07      reward: 10.07
epis: 3032   score: 10.0   mem len: 931491   epsilon: 0.01   steps: 493    lr:
1e-07      reward: 10.08
epis: 3033   score: 13.0   mem len: 932104   epsilon: 0.01   steps: 613    lr:
1e-07      reward: 10.14
epis: 3034   score: 10.0   mem len: 932586   epsilon: 0.01   steps: 482    lr:
1e-07      reward: 10.15
epis: 3035   score: 10.0   mem len: 933049   epsilon: 0.01   steps: 463    lr:
1e-07      reward: 10.18
epis: 3036   score: 11.0   mem len: 933551   epsilon: 0.01   steps: 502    lr:
1e-07      reward: 10.18
epis: 3037   score: 12.0   mem len: 934126   epsilon: 0.01   steps: 575    lr:
1e-07      reward: 10.21
epis: 3038   score: 10.0   mem len: 934608   epsilon: 0.01   steps: 482    lr:
1e-07      reward: 10.22
epis: 3039   score: 13.0   mem len: 935195   epsilon: 0.01   steps: 587    lr:
1e-07      reward: 10.14
epis: 3040   score: 10.0   mem len: 935677   epsilon: 0.01   steps: 482    lr:
1e-07      reward: 10.17
epis: 3041   score: 5.0   mem len: 935970   epsilon: 0.01   steps: 293    lr:
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1e-07     reward: 10.14
epis: 3042   score: 13.0   mem len: 936576   epsilon: 0.01   steps: 606   lr:
1e-07     reward: 10.21
epis: 3043   score: 13.0   mem len: 937182   epsilon: 0.01   steps: 606   lr:
1e-07     reward: 10.24
epis: 3044   score: 11.0   mem len: 937684   epsilon: 0.01   steps: 502   lr:
1e-07     reward: 10.23
epis: 3045   score: 10.0   mem len: 938210   epsilon: 0.01   steps: 526   lr:
1e-07     reward: 10.22
epis: 3046   score: 6.0   mem len: 938570   epsilon: 0.01   steps: 360   lr:
1e-07     reward: 10.16
epis: 3047   score: 13.0   mem len: 939176   epsilon: 0.01   steps: 606   lr:
1e-07     reward: 10.16
epis: 3048   score: 12.0   mem len: 939612   epsilon: 0.01   steps: 436   lr:
1e-07     reward: 10.18
epis: 3049   score: 13.0   mem len: 940218   epsilon: 0.01   steps: 606   lr:
1e-07     reward: 10.14
epis: 3050   score: 12.0   mem len: 940654   epsilon: 0.01   steps: 436   lr:
1e-07     reward: 10.17
epis: 3051   score: 12.0   mem len: 941090   epsilon: 0.01   steps: 436   lr:
1e-07     reward: 10.17
epis: 3052   score: 10.0   mem len: 941561   epsilon: 0.01   steps: 471   lr:
1e-07     reward: 10.17
epis: 3053   score: 11.0   mem len: 942071   epsilon: 0.01   steps: 510   lr:
1e-07     reward: 10.18
epis: 3054   score: 11.0   mem len: 942598   epsilon: 0.01   steps: 527   lr:
1e-07     reward: 10.18
epis: 3055   score: 9.0   mem len: 943139   epsilon: 0.01   steps: 541   lr:
1e-07     reward: 10.17
epis: 3056   score: 9.0   mem len: 943593   epsilon: 0.01   steps: 454   lr:
1e-07     reward: 10.13
epis: 3057   score: 11.0   mem len: 944092   epsilon: 0.01   steps: 499   lr:
1e-07     reward: 10.14
epis: 3058   score: 11.0   mem len: 944491   epsilon: 0.01   steps: 399   lr:
1e-07     reward: 10.2
epis: 3059   score: 10.0   mem len: 945006   epsilon: 0.01   steps: 515   lr:
1e-07     reward: 10.21
epis: 3060   score: 9.0   mem len: 945452   epsilon: 0.01   steps: 446   lr:
1e-07     reward: 10.26
epis: 3061   score: 10.0   mem len: 945934   epsilon: 0.01   steps: 482   lr:
1e-07     reward: 10.32
epis: 3062   score: 10.0   mem len: 946497   epsilon: 0.01   steps: 563   lr:
1e-07     reward: 10.37
epis: 3063   score: 9.0   mem len: 946951   epsilon: 0.01   steps: 454   lr:
1e-07     reward: 10.35
epis: 3064   score: 9.0   mem len: 947405   epsilon: 0.01   steps: 454   lr:
1e-07     reward: 10.36
epis: 3065   score: 12.0   mem len: 948003   epsilon: 0.01   steps: 598   lr:
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1e-07   reward: 10.41
epis: 3066   score: 10.0   mem len: 948461   epsilon: 0.01   steps: 458   lr:
1e-07   reward: 10.4
epis: 3067   score: 9.0   mem len: 948907   epsilon: 0.01   steps: 446   lr:
1e-07   reward: 10.38
epis: 3068   score: 4.0   mem len: 949153   epsilon: 0.01   steps: 246   lr:
1e-07   reward: 10.29
epis: 3069   score: 13.0   mem len: 949759   epsilon: 0.01   steps: 606   lr:
1e-07   reward: 10.29
epis: 3070   score: 13.0   mem len: 950365   epsilon: 0.01   steps: 606   lr:
1e-07   reward: 10.29
epis: 3071   score: 11.0   mem len: 950864   epsilon: 0.01   steps: 499   lr:
1e-07   reward: 10.27
epis: 3072   score: 10.0   mem len: 951339   epsilon: 0.01   steps: 475   lr:
1e-07   reward: 10.24
epis: 3073   score: 9.0   mem len: 951793   epsilon: 0.01   steps: 454   lr:
1e-07   reward: 10.22
epis: 3074   score: 9.0   mem len: 952247   epsilon: 0.01   steps: 454   lr:
1e-07   reward: 10.22
epis: 3075   score: 18.0   mem len: 952908   epsilon: 0.01   steps: 661   lr:
1e-07   reward: 10.3
epis: 3076   score: 15.0   mem len: 953434   epsilon: 0.01   steps: 526   lr:
1e-07   reward: 10.36
epis: 3077   score: 14.0   mem len: 953918   epsilon: 0.01   steps: 484   lr:
1e-07   reward: 10.4
epis: 3078   score: 15.0   mem len: 954444   epsilon: 0.01   steps: 526   lr:
1e-07   reward: 10.44
epis: 3079   score: 15.0   mem len: 954970   epsilon: 0.01   steps: 526   lr:
1e-07   reward: 10.49
epis: 3080   score: 11.0   mem len: 955490   epsilon: 0.01   steps: 520   lr:
1e-07   reward: 10.5
epis: 3081   score: 6.0   mem len: 955832   epsilon: 0.01   steps: 342   lr:
1e-07   reward: 10.45
epis: 3082   score: 23.0   mem len: 956432   epsilon: 0.01   steps: 600   lr:
1e-07   reward: 10.59
epis: 3083   score: 13.0   mem len: 957028   epsilon: 0.01   steps: 596   lr:
1e-07   reward: 10.65
epis: 3084   score: 12.0   mem len: 957589   epsilon: 0.01   steps: 561   lr:
1e-07   reward: 10.67
epis: 3085   score: 16.0   mem len: 958140   epsilon: 0.01   steps: 551   lr:
1e-07   reward: 10.77
epis: 3086   score: 6.0   mem len: 958518   epsilon: 0.01   steps: 378   lr:
1e-07   reward: 10.7
epis: 3087   score: 10.0   mem len: 959004   epsilon: 0.01   steps: 486   lr:
1e-07   reward: 10.72
epis: 3088   score: 11.0   mem len: 959541   epsilon: 0.01   steps: 537   lr:
1e-07   reward: 10.73
epis: 3089   score: 9.0   mem len: 960031   epsilon: 0.01   steps: 490   lr:

1e-07   reward: 10.72
epis: 3090   score: 11.0   mem len: 960584   epsilon: 0.01   steps: 553   lr:
1e-07   reward: 10.73
epis: 3091   score: 13.0   mem len: 961049   epsilon: 0.01   steps: 465   lr:
1e-07   reward: 10.76
epis: 3092   score: 13.0   mem len: 961514   epsilon: 0.01   steps: 465   lr:
1e-07   reward: 10.77
epis: 3093   score: 15.0   mem len: 961939   epsilon: 0.01   steps: 425   lr:
1e-07   reward: 10.83
epis: 3094   score: 13.0   mem len: 962404   epsilon: 0.01   steps: 465   lr:
1e-07   reward: 10.86
epis: 3095   score: 11.0   mem len: 962885   epsilon: 0.01   steps: 481   lr:
1e-07   reward: 10.86
epis: 3096   score: 9.0   mem len: 963339   epsilon: 0.01   steps: 454   lr:
1e-07   reward: 10.89
epis: 3097   score: 9.0   mem len: 963793   epsilon: 0.01   steps: 454   lr:
1e-07   reward: 10.86
epis: 3098   score: 9.0   mem len: 964249   epsilon: 0.01   steps: 456   lr:
1e-07   reward: 10.85
epis: 3099   score: 14.0   mem len: 964751   epsilon: 0.01   steps: 502   lr:
1e-07   reward: 10.88
epis: 3100   score: 8.0   mem len: 965214   epsilon: 0.01   steps: 463   lr:
1e-07   reward: 10.86
epis: 3101   score: 15.0   mem len: 965740   epsilon: 0.01   steps: 526   lr:
1e-07   reward: 10.89
epis: 3102   score: 15.0   mem len: 966266   epsilon: 0.01   steps: 526   lr:
1e-07   reward: 10.92
epis: 3103   score: 14.0   mem len: 966768   epsilon: 0.01   steps: 502   lr:
1e-07   reward: 10.94
epis: 3104   score: 10.0   mem len: 967239   epsilon: 0.01   steps: 471   lr:
1e-07   reward: 10.93
epis: 3105   score: 12.0   mem len: 967836   epsilon: 0.01   steps: 597   lr:
1e-07   reward: 10.96
epis: 3106   score: 12.0   mem len: 968431   epsilon: 0.01   steps: 595   lr:
1e-07   reward: 10.99
epis: 3107   score: 10.0   mem len: 968902   epsilon: 0.01   steps: 471   lr:
1e-07   reward: 10.98
epis: 3108   score: 12.0   mem len: 969472   epsilon: 0.01   steps: 570   lr:
1e-07   reward: 10.99
epis: 3109   score: 5.0   mem len: 969822   epsilon: 0.01   steps: 350   lr:
1e-07   reward: 10.93
epis: 3110   score: 5.0   mem len: 970130   epsilon: 0.01   steps: 308   lr:
1e-07   reward: 10.86
epis: 3111   score: 14.0   mem len: 970674   epsilon: 0.01   steps: 544   lr:
1e-07   reward: 10.91
epis: 3112   score: 12.0   mem len: 971160   epsilon: 0.01   steps: 486   lr:
1e-07   reward: 10.88
epis: 3113   score: 12.0   mem len: 971596   epsilon: 0.01   steps: 436   lr:

1e-07   reward: 10.89
epis: 3114   score: 12.0   mem len: 972032   epsilon: 0.01   steps: 436   lr:
1e-07   reward: 10.89
epis: 3115   score: 10.0   mem len: 972521   epsilon: 0.01   steps: 489   lr:
1e-07   reward: 10.84
epis: 3116   score: 18.0   mem len: 973191   epsilon: 0.01   steps: 670   lr:
1e-07   reward: 10.93
epis: 3117   score: 16.0   mem len: 973741   epsilon: 0.01   steps: 550   lr:
1e-07   reward: 11.0
epis: 3118   score: 16.0   mem len: 974292   epsilon: 0.01   steps: 551   lr:
1e-07   reward: 11.07
epis: 3119   score: 14.0   mem len: 974794   epsilon: 0.01   steps: 502   lr:
1e-07   reward: 11.12
epis: 3120   score: 10.0   mem len: 975265   epsilon: 0.01   steps: 471   lr:
1e-07   reward: 11.14
epis: 3121   score: 5.0   mem len: 975575   epsilon: 0.01   steps: 310   lr:
1e-07   reward: 11.11
epis: 3122   score: 12.0   mem len: 976170   epsilon: 0.01   steps: 595   lr:
1e-07   reward: 11.13
epis: 3123   score: 12.0   mem len: 976765   epsilon: 0.01   steps: 595   lr:
1e-07   reward: 11.17
epis: 3124   score: 13.0   mem len: 977373   epsilon: 0.01   steps: 608   lr:
1e-07   reward: 11.19
epis: 3125   score: 10.0   mem len: 977844   epsilon: 0.01   steps: 471   lr:
1e-07   reward: 11.2
epis: 3126   score: 9.0   mem len: 978315   epsilon: 0.01   steps: 471   lr:
1e-07   reward: 11.18
epis: 3127   score: 13.0   mem len: 978878   epsilon: 0.01   steps: 563   lr:
1e-07   reward: 11.21
epis: 3128   score: 12.0   mem len: 979314   epsilon: 0.01   steps: 436   lr:
1e-07   reward: 11.23
epis: 3129   score: 5.0   mem len: 979642   epsilon: 0.01   steps: 328   lr:
1e-07   reward: 11.19
epis: 3130   score: 10.0   mem len: 980131   epsilon: 0.01   steps: 489   lr:
1e-07   reward: 11.23
epis: 3131   score: 9.0   mem len: 980583   epsilon: 0.01   steps: 452   lr:
1e-07   reward: 11.21
epis: 3132   score: 7.0   mem len: 980962   epsilon: 0.01   steps: 379   lr:
1e-07   reward: 11.18
epis: 3133   score: 15.0   mem len: 981494   epsilon: 0.01   steps: 532   lr:
1e-07   reward: 11.2
epis: 3134   score: 12.0   mem len: 982089   epsilon: 0.01   steps: 595   lr:
1e-07   reward: 11.22
epis: 3135   score: 10.0   mem len: 982560   epsilon: 0.01   steps: 471   lr:
1e-07   reward: 11.22
epis: 3136   score: 10.0   mem len: 983031   epsilon: 0.01   steps: 471   lr:
1e-07   reward: 11.21
epis: 3137   score: 6.0   mem len: 983388   epsilon: 0.01   steps: 357   lr:

1e-07   reward: 11.15
epis: 3138   score: 14.0   mem len: 983890   epsilon: 0.01   steps: 502   lr:
1e-07   reward: 11.19
epis: 3139   score: 8.0   mem len: 984371   epsilon: 0.01   steps: 481   lr:
1e-07   reward: 11.14
epis: 3140   score: 9.0   mem len: 984844   epsilon: 0.01   steps: 473   lr:
1e-07   reward: 11.13
epis: 3141   score: 15.0   mem len: 985372   epsilon: 0.01   steps: 528   lr:
1e-07   reward: 11.23
epis: 3142   score: 16.0   mem len: 985923   epsilon: 0.01   steps: 551   lr:
1e-07   reward: 11.26
epis: 3143   score: 8.0   mem len: 986333   epsilon: 0.01   steps: 410   lr:
1e-07   reward: 11.21
epis: 3144   score: 11.0   mem len: 986861   epsilon: 0.01   steps: 528   lr:
1e-07   reward: 11.21
epis: 3145   score: 15.0   mem len: 987395   epsilon: 0.01   steps: 534   lr:
1e-07   reward: 11.26
epis: 3146   score: 7.0   mem len: 987785   epsilon: 0.01   steps: 390   lr:
1e-07   reward: 11.27
epis: 3147   score: 14.0   mem len: 988287   epsilon: 0.01   steps: 502   lr:
1e-07   reward: 11.28
epis: 3148   score: 13.0   mem len: 988834   epsilon: 0.01   steps: 547   lr:
1e-07   reward: 11.29
epis: 3149   score: 9.0   mem len: 989288   epsilon: 0.01   steps: 454   lr:
1e-07   reward: 11.25
epis: 3150   score: 9.0   mem len: 989742   epsilon: 0.01   steps: 454   lr:
1e-07   reward: 11.22
epis: 3151   score: 12.0   mem len: 990337   epsilon: 0.01   steps: 595   lr:
1e-07   reward: 11.22
epis: 3152   score: 9.0   mem len: 990808   epsilon: 0.01   steps: 471   lr:
1e-07   reward: 11.21
epis: 3153   score: 9.0   mem len: 991258   epsilon: 0.01   steps: 450   lr:
1e-07   reward: 11.19
epis: 3154   score: 10.0   mem len: 991729   epsilon: 0.01   steps: 471   lr:
1e-07   reward: 11.18
epis: 3155   score: 10.0   mem len: 992200   epsilon: 0.01   steps: 471   lr:
1e-07   reward: 11.19
epis: 3156   score: 10.0   mem len: 992671   epsilon: 0.01   steps: 471   lr:
1e-07   reward: 11.2
epis: 3157   score: 10.0   mem len: 993142   epsilon: 0.01   steps: 471   lr:
1e-07   reward: 11.19
epis: 3158   score: 8.0   mem len: 993544   epsilon: 0.01   steps: 402   lr:
1e-07   reward: 11.16
epis: 3159   score: 12.0   mem len: 994089   epsilon: 0.01   steps: 545   lr:
1e-07   reward: 11.18
epis: 3160   score: 16.0   mem len: 994640   epsilon: 0.01   steps: 551   lr:
1e-07   reward: 11.25
epis: 3161   score: 11.0   mem len: 995197   epsilon: 0.01   steps: 557   lr:

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1e-07     reward: 11.26
epis: 3162   score: 16.0   mem len: 995826   epsilon: 0.01   steps: 629   lr:
1e-07     reward: 11.32
epis: 3163   score: 11.0   mem len: 996348   epsilon: 0.01   steps: 522   lr:
1e-07     reward: 11.34
epis: 3164   score: 14.0   mem len: 996850   epsilon: 0.01   steps: 502   lr:
1e-07     reward: 11.39
epis: 3165   score: 16.0   mem len: 997403   epsilon: 0.01   steps: 553   lr:
1e-07     reward: 11.43
epis: 3166   score: 11.0   mem len: 997923   epsilon: 0.01   steps: 520   lr:
1e-07     reward: 11.44
epis: 3167   score: 16.0   mem len: 998474   epsilon: 0.01   steps: 551   lr:
1e-07     reward: 11.51
epis: 3168   score: 16.0   mem len: 999009   epsilon: 0.01   steps: 535   lr:
1e-07     reward: 11.63
epis: 3169   score: 7.0   mem len: 999416   epsilon: 0.01   steps: 407   lr:
1e-07     reward: 11.57
epis: 3170   score: 9.0   mem len: 999870   epsilon: 0.01   steps: 454   lr:
1e-07     reward: 11.53
epis: 3171   score: 9.0   mem len: 1000000   epsilon: 0.01   steps: 472   lr:
0.0    reward: 11.51
epis: 3172   score: 9.0   mem len: 1000000   epsilon: 0.01   steps: 454   lr:
0.0    reward: 11.5
epis: 3173   score: 9.0   mem len: 1000000   epsilon: 0.01   steps: 454   lr:
0.0    reward: 11.5
epis: 3174   score: 9.0   mem len: 1000000   epsilon: 0.01   steps: 454   lr:
0.0    reward: 11.5
epis: 3175   score: 7.0   mem len: 1000000   epsilon: 0.01   steps: 368   lr:
0.0    reward: 11.39
epis: 3176   score: 8.0   mem len: 1000000   epsilon: 0.01   steps: 480   lr:
0.0    reward: 11.32
epis: 3177   score: 16.0   mem len: 1000000   epsilon: 0.01   steps: 551   lr:
0.0    reward: 11.34
epis: 3178   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 575   lr:
0.0    reward: 11.31
epis: 3179   score: 9.0   mem len: 1000000   epsilon: 0.01   steps: 454   lr:
0.0    reward: 11.25
epis: 3180   score: 14.0   mem len: 1000000   epsilon: 0.01   steps: 502   lr:
0.0    reward: 11.28
epis: 3181   score: 9.0   mem len: 1000000   epsilon: 0.01   steps: 454   lr:
0.0    reward: 11.31
epis: 3182   score: 13.0   mem len: 1000000   epsilon: 0.01   steps: 620   lr:
0.0    reward: 11.21
epis: 3183   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 575   lr:
0.0    reward: 11.2
epis: 3184   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 570   lr:
0.0    reward: 11.2
epis: 3185   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 570   lr:
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0.0     reward: 11.16
epis: 3186    score: 9.0    mem len: 1000000    epsilon: 0.01    steps: 467    lr:
0.0     reward: 11.19
epis: 3187    score: 12.0    mem len: 1000000    epsilon: 0.01    steps: 595    lr:
0.0     reward: 11.21
epis: 3188    score: 11.0    mem len: 1000000    epsilon: 0.01    steps: 502    lr:
0.0     reward: 11.21
epis: 3189    score: 10.0    mem len: 1000000    epsilon: 0.01    steps: 508    lr:
0.0     reward: 11.22
epis: 3190    score: 8.0    mem len: 1000000    epsilon: 0.01    steps: 443    lr:
0.0     reward: 11.19
epis: 3191    score: 15.0    mem len: 1000000    epsilon: 0.01    steps: 588    lr:
0.0     reward: 11.21
epis: 3192    score: 12.0    mem len: 1000000    epsilon: 0.01    steps: 571    lr:
0.0     reward: 11.2
epis: 3193    score: 8.0    mem len: 1000000    epsilon: 0.01    steps: 439    lr:
0.0     reward: 11.13
epis: 3194    score: 5.0    mem len: 1000000    epsilon: 0.01    steps: 328    lr:
0.0     reward: 11.05
epis: 3195    score: 15.0    mem len: 1000000    epsilon: 0.01    steps: 526    lr:
0.0     reward: 11.09
epis: 3196    score: 8.0    mem len: 1000000    epsilon: 0.01    steps: 438    lr:
0.0     reward: 11.08
epis: 3197    score: 8.0    mem len: 1000000    epsilon: 0.01    steps: 461    lr:
0.0     reward: 11.07
epis: 3198    score: 17.0    mem len: 1000000    epsilon: 0.01    steps: 684    lr:
0.0     reward: 11.15
epis: 3199    score: 5.0    mem len: 1000000    epsilon: 0.01    steps: 328    lr:
0.0     reward: 11.06
epis: 3200    score: 11.0    mem len: 1000000    epsilon: 0.01    steps: 502    lr:
0.0     reward: 11.09
epis: 3201    score: 7.0    mem len: 1000000    epsilon: 0.01    steps: 409    lr:
0.0     reward: 11.01
epis: 3202    score: 9.0    mem len: 1000000    epsilon: 0.01    steps: 471    lr:
0.0     reward: 10.95
epis: 3203    score: 10.0    mem len: 1000000    epsilon: 0.01    steps: 471    lr:
0.0     reward: 10.91
epis: 3204    score: 10.0    mem len: 1000000    epsilon: 0.01    steps: 471    lr:
0.0     reward: 10.91
epis: 3205    score: 5.0    mem len: 1000000    epsilon: 0.01    steps: 328    lr:
0.0     reward: 10.84
epis: 3206    score: 10.0    mem len: 1000000    epsilon: 0.01    steps: 471    lr:
0.0     reward: 10.82
epis: 3207    score: 9.0    mem len: 1000000    epsilon: 0.01    steps: 456    lr:
0.0     reward: 10.81
epis: 3208    score: 14.0    mem len: 1000000    epsilon: 0.01    steps: 495    lr:
0.0     reward: 10.83
epis: 3209    score: 5.0    mem len: 1000000    epsilon: 0.01    steps: 291    lr:
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0.0     reward: 10.83
epis: 3210   score: 5.0   mem len: 1000000   epsilon: 0.01    steps: 291    lr:
0.0     reward: 10.83
epis: 3211   score: 14.0   mem len: 1000000   epsilon: 0.01    steps: 510    lr:
0.0     reward: 10.83
epis: 3212   score: 14.0   mem len: 1000000   epsilon: 0.01    steps: 510    lr:
0.0     reward: 10.85
epis: 3213   score: 5.0   mem len: 1000000   epsilon: 0.01    steps: 291    lr:
0.0     reward: 10.78
epis: 3214   score: 11.0   mem len: 1000000   epsilon: 0.01    steps: 518    lr:
0.0     reward: 10.77
epis: 3215   score: 5.0   mem len: 1000000   epsilon: 0.01    steps: 328    lr:
0.0     reward: 10.72
epis: 3216   score: 7.0   mem len: 1000000   epsilon: 0.01    steps: 388    lr:
0.0     reward: 10.61
epis: 3217   score: 7.0   mem len: 1000000   epsilon: 0.01    steps: 388    lr:
0.0     reward: 10.52
epis: 3218   score: 7.0   mem len: 1000000   epsilon: 0.01    steps: 388    lr:
0.0     reward: 10.43
epis: 3219   score: 7.0   mem len: 1000000   epsilon: 0.01    steps: 388    lr:
0.0     reward: 10.36
epis: 3220   score: 11.0   mem len: 1000000   epsilon: 0.01    steps: 514    lr:
0.0     reward: 10.37
epis: 3221   score: 16.0   mem len: 1000000   epsilon: 0.01    steps: 624    lr:
0.0     reward: 10.48
epis: 3222   score: 11.0   mem len: 1000000   epsilon: 0.01    steps: 461    lr:
0.0     reward: 10.47
epis: 3223   score: 7.0   mem len: 1000000   epsilon: 0.01    steps: 388    lr:
0.0     reward: 10.42
epis: 3224   score: 7.0   mem len: 1000000   epsilon: 0.01    steps: 388    lr:
0.0     reward: 10.36
epis: 3225   score: 7.0   mem len: 1000000   epsilon: 0.01    steps: 388    lr:
0.0     reward: 10.33
epis: 3226   score: 7.0   mem len: 1000000   epsilon: 0.01    steps: 388    lr:
0.0     reward: 10.31
epis: 3227   score: 5.0   mem len: 1000000   epsilon: 0.01    steps: 291    lr:
0.0     reward: 10.23
epis: 3228   score: 7.0   mem len: 1000000   epsilon: 0.01    steps: 388    lr:
0.0     reward: 10.18
epis: 3229   score: 8.0   mem len: 1000000   epsilon: 0.01    steps: 459    lr:
0.0     reward: 10.21
epis: 3230   score: 8.0   mem len: 1000000   epsilon: 0.01    steps: 459    lr:
0.0     reward: 10.19
epis: 3231   score: 8.0   mem len: 1000000   epsilon: 0.01    steps: 459    lr:
0.0     reward: 10.18
epis: 3232   score: 11.0   mem len: 1000000   epsilon: 0.01    steps: 551    lr:
0.0     reward: 10.22
epis: 3233   score: 7.0   mem len: 1000000   epsilon: 0.01    steps: 388    lr:
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0.0    reward: 10.14
epis: 3234   score: 13.0   mem len: 1000000   epsilon: 0.01   steps: 608   lr:
0.0    reward: 10.15
epis: 3235   score: 13.0   mem len: 1000000   epsilon: 0.01   steps: 597   lr:
0.0    reward: 10.18
epis: 3236   score: 7.0   mem len: 1000000   epsilon: 0.01   steps: 388   lr:
0.0    reward: 10.15
epis: 3237   score: 8.0   mem len: 1000000   epsilon: 0.01   steps: 437   lr:
0.0    reward: 10.17
epis: 3238   score: 9.0   mem len: 1000000   epsilon: 0.01   steps: 476   lr:
0.0    reward: 10.12
epis: 3239   score: 7.0   mem len: 1000000   epsilon: 0.01   steps: 388   lr:
0.0    reward: 10.11
epis: 3240   score: 7.0   mem len: 1000000   epsilon: 0.01   steps: 388   lr:
0.0    reward: 10.09
epis: 3241   score: 8.0   mem len: 1000000   epsilon: 0.01   steps: 459   lr:
0.0    reward: 10.02
epis: 3242   score: 7.0   mem len: 1000000   epsilon: 0.01   steps: 387   lr:
0.0    reward: 9.93
epis: 3243   score: 5.0   mem len: 1000000   epsilon: 0.01   steps: 291   lr:
0.0    reward: 9.9
epis: 3244   score: 7.0   mem len: 1000000   epsilon: 0.01   steps: 388   lr:
0.0    reward: 9.86
epis: 3245   score: 7.0   mem len: 1000000   epsilon: 0.01   steps: 388   lr:
0.0    reward: 9.78
epis: 3246   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 595   lr:
0.0    reward: 9.83
epis: 3247   score: 16.0   mem len: 1000000   epsilon: 0.01   steps: 596   lr:
0.0    reward: 9.85
epis: 3248   score: 7.0   mem len: 1000000   epsilon: 0.01   steps: 403   lr:
0.0    reward: 9.79
epis: 3249   score: 16.0   mem len: 1000000   epsilon: 0.01   steps: 596   lr:
0.0    reward: 9.86
epis: 3250   score: 16.0   mem len: 1000000   epsilon: 0.01   steps: 596   lr:
0.0    reward: 9.93
epis: 3251   score: 16.0   mem len: 1000000   epsilon: 0.01   steps: 551   lr:
0.0    reward: 9.97
epis: 3252   score: 14.0   mem len: 1000000   epsilon: 0.01   steps: 502   lr:
0.0    reward: 10.02
epis: 3253   score: 16.0   mem len: 1000000   epsilon: 0.01   steps: 553   lr:
0.0    reward: 10.09
epis: 3254   score: 16.0   mem len: 1000000   epsilon: 0.01   steps: 553   lr:
0.0    reward: 10.15
epis: 3255   score: 16.0   mem len: 1000000   epsilon: 0.01   steps: 553   lr:
0.0    reward: 10.21
epis: 3256   score: 15.0   mem len: 1000000   epsilon: 0.01   steps: 528   lr:
0.0    reward: 10.26
epis: 3257   score: 15.0   mem len: 1000000   epsilon: 0.01   steps: 581   lr:
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0.0   reward: 10.31
epis: 3258   score: 15.0   mem len: 1000000   epsilon: 0.01   steps: 582   lr:
0.0   reward: 10.38
epis: 3259   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 583   lr:
0.0   reward: 10.38
epis: 3260   score: 9.0   mem len: 1000000   epsilon: 0.01   steps: 454   lr:
0.0   reward: 10.31
epis: 3261   score: 9.0   mem len: 1000000   epsilon: 0.01   steps: 472   lr:
0.0   reward: 10.29
epis: 3262   score: 10.0   mem len: 1000000   epsilon: 0.01   steps: 505   lr:
0.0   reward: 10.23
epis: 3263   score: 10.0   mem len: 1000000   epsilon: 0.01   steps: 500   lr:
0.0   reward: 10.22
epis: 3264   score: 9.0   mem len: 1000000   epsilon: 0.01   steps: 454   lr:
0.0   reward: 10.17
epis: 3265   score: 9.0   mem len: 1000000   epsilon: 0.01   steps: 454   lr:
0.0   reward: 10.1
epis: 3266   score: 10.0   mem len: 1000000   epsilon: 0.01   steps: 487   lr:
0.0   reward: 10.09
epis: 3267   score: 9.0   mem len: 1000000   epsilon: 0.01   steps: 454   lr:
0.0   reward: 10.02
epis: 3268   score: 16.0   mem len: 1000000   epsilon: 0.01   steps: 621   lr:
0.0   reward: 10.02
epis: 3269   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 595   lr:
0.0   reward: 10.07
epis: 3270   score: 15.0   mem len: 1000000   epsilon: 0.01   steps: 545   lr:
0.0   reward: 10.13
epis: 3271   score: 9.0   mem len: 1000000   epsilon: 0.01   steps: 467   lr:
0.0   reward: 10.13
epis: 3272   score: 10.0   mem len: 1000000   epsilon: 0.01   steps: 487   lr:
0.0   reward: 10.14
epis: 3273   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 595   lr:
0.0   reward: 10.17
epis: 3274   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 595   lr:
0.0   reward: 10.2
epis: 3275   score: 10.0   mem len: 1000000   epsilon: 0.01   steps: 487   lr:
0.0   reward: 10.23
epis: 3276   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 595   lr:
0.0   reward: 10.27
epis: 3277   score: 10.0   mem len: 1000000   epsilon: 0.01   steps: 523   lr:
0.0   reward: 10.21
epis: 3278   score: 8.0   mem len: 1000000   epsilon: 0.01   steps: 443   lr:
0.0   reward: 10.17
epis: 3279   score: 11.0   mem len: 1000000   epsilon: 0.01   steps: 553   lr:
0.0   reward: 10.19
epis: 3280   score: 10.0   mem len: 1000000   epsilon: 0.01   steps: 517   lr:
0.0   reward: 10.15
epis: 3281   score: 6.0   mem len: 1000000   epsilon: 0.01   steps: 360   lr:

0.0   reward: 10.12
epis: 3282   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 592   lr:
0.0   reward: 10.11
epis: 3283   score: 9.0   mem len: 1000000   epsilon: 0.01   steps: 471   lr:
0.0   reward: 10.08
epis: 3284   score: 6.0   mem len: 1000000   epsilon: 0.01   steps: 340   lr:
0.0   reward: 10.02
epis: 3285   score: 9.0   mem len: 1000000   epsilon: 0.01   steps: 456   lr:
0.0   reward: 9.99
epis: 3286   score: 13.0   mem len: 1000000   epsilon: 0.01   steps: 608   lr:
0.0   reward: 10.03
epis: 3287   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 595   lr:
0.0   reward: 10.03
epis: 3288   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 597   lr:
0.0   reward: 10.04
epis: 3289   score: 6.0   mem len: 1000000   epsilon: 0.01   steps: 341   lr:
0.0   reward: 10.0
epis: 3290   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 595   lr:
0.0   reward: 10.04
epis: 3291   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 595   lr:
0.0   reward: 10.01
epis: 3292   score: 6.0   mem len: 1000000   epsilon: 0.01   steps: 360   lr:
0.0   reward: 9.95
epis: 3293   score: 8.0   mem len: 1000000   epsilon: 0.01   steps: 428   lr:
0.0   reward: 9.95
epis: 3294   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 595   lr:
0.0   reward: 10.02
epis: 3295   score: 11.0   mem len: 1000000   epsilon: 0.01   steps: 399   lr:
0.0   reward: 9.98
epis: 3296   score: 11.0   mem len: 1000000   epsilon: 0.01   steps: 502   lr:
0.0   reward: 10.01
epis: 3297   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 388   lr:
0.0   reward: 10.05
epis: 3298   score: 13.0   mem len: 1000000   epsilon: 0.01   steps: 437   lr:
0.0   reward: 10.01
epis: 3299   score: 13.0   mem len: 1000000   epsilon: 0.01   steps: 608   lr:
0.0   reward: 10.09
epis: 3300   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 595   lr:
0.0   reward: 10.1
epis: 3301   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 595   lr:
0.0   reward: 10.15
epis: 3302   score: 11.0   mem len: 1000000   epsilon: 0.01   steps: 573   lr:
0.0   reward: 10.17
epis: 3303   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 570   lr:
0.0   reward: 10.19
epis: 3304   score: 11.0   mem len: 1000000   epsilon: 0.01   steps: 537   lr:
0.0   reward: 10.2
epis: 3305   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 570   lr:

0.0   reward: 10.27
epis: 3306   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 570   lr:
0.0   reward: 10.29
epis: 3307   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 570   lr:
0.0   reward: 10.32
epis: 3308   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 570   lr:
0.0   reward: 10.3
epis: 3309   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 544   lr:
0.0   reward: 10.37
epis: 3310   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 570   lr:
0.0   reward: 10.44
epis: 3311   score: 11.0   mem len: 1000000   epsilon: 0.01   steps: 502   lr:
0.0   reward: 10.41
epis: 3312   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 570   lr:
0.0   reward: 10.39
epis: 3313   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 570   lr:
0.0   reward: 10.46
epis: 3314   score: 8.0   mem len: 1000000   epsilon: 0.01   steps: 445   lr:
0.0   reward: 10.43
epis: 3315   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 570   lr:
0.0   reward: 10.5
epis: 3316   score: 4.0   mem len: 1000000   epsilon: 0.01   steps: 246   lr:
0.0   reward: 10.47
epis: 3317   score: 4.0   mem len: 1000000   epsilon: 0.01   steps: 246   lr:
0.0   reward: 10.44
epis: 3318   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 570   lr:
0.0   reward: 10.49
epis: 3319   score: 12.0   mem len: 1000000   epsilon: 0.01   steps: 570   lr:
0.0   reward: 10.54
epis: 3320   score: 11.0   mem len: 1000000   epsilon: 0.01   steps: 502   lr:
0.0   reward: 10.54
epis: 3321   score: 13.0   mem len: 1000000   epsilon: 0.01   steps: 437   lr:
0.0   reward: 10.51
epis: 3322   score: 13.0   mem len: 1000000   epsilon: 0.01   steps: 437   lr:
0.0   reward: 10.53
epis: 3323   score: 13.0   mem len: 1000000   epsilon: 0.01   steps: 437   lr:
0.0   reward: 10.59
epis: 3324   score: 6.0   mem len: 1000000   epsilon: 0.01   steps: 325   lr:
0.0   reward: 10.58
epis: 3325   score: 13.0   mem len: 1000000   epsilon: 0.01   steps: 437   lr:
0.0   reward: 10.64
epis: 3326   score: 4.0   mem len: 1000000   epsilon: 0.01   steps: 246   lr:
0.0   reward: 10.61
epis: 3327   score: 7.0   mem len: 1000000   epsilon: 0.01   steps: 391   lr:
0.0   reward: 10.63
epis: 3328   score: 8.0   mem len: 1000000   epsilon: 0.01   steps: 438   lr:
0.0   reward: 10.64
epis: 3329   score: 11.0   mem len: 1000000   epsilon: 0.01   steps: 511   lr:

```
0.0      reward: 10.67
epis: 3330    score: 9.0    mem len: 1000000    epsilon: 0.01    steps: 467    lr:
0.0      reward: 10.68
epis: 3331    score: 9.0    mem len: 1000000    epsilon: 0.01    steps: 471    lr:
0.0      reward: 10.69
epis: 3332    score: 12.0    mem len: 1000000    epsilon: 0.01    steps: 595    lr:
0.0      reward: 10.7
epis: 3333    score: 8.0    mem len: 1000000    epsilon: 0.01    steps: 443    lr:
0.0      reward: 10.71
epis: 3334    score: 9.0    mem len: 1000000    epsilon: 0.01    steps: 490    lr:
0.0      reward: 10.67
epis: 3335    score: 9.0    mem len: 1000000    epsilon: 0.01    steps: 391    lr:
0.0      reward: 10.63
epis: 3336    score: 12.0    mem len: 1000000    epsilon: 0.01    steps: 436    lr:
0.0      reward: 10.68
epis: 3337    score: 8.0    mem len: 1000000    epsilon: 0.01    steps: 396    lr:
0.0      reward: 10.68
epis: 3338    score: 12.0    mem len: 1000000    epsilon: 0.01    steps: 436    lr:
0.0      reward: 10.71
epis: 3339    score: 12.0    mem len: 1000000    epsilon: 0.01    steps: 436    lr:
0.0      reward: 10.76
epis: 3340    score: 5.0    mem len: 1000000    epsilon: 0.01    steps: 292    lr:
0.0      reward: 10.74
epis: 3341    score: 10.0    mem len: 1000000    epsilon: 0.01    steps: 471    lr:
0.0      reward: 10.76
epis: 3342    score: 11.0    mem len: 1000000    epsilon: 0.01    steps: 518    lr:
0.0      reward: 10.8
epis: 3343    score: 12.0    mem len: 1000000    epsilon: 0.01    steps: 436    lr:
0.0      reward: 10.87
epis: 3344    score: 4.0    mem len: 1000000    epsilon: 0.01    steps: 260    lr:
0.0      reward: 10.84
epis: 3345    score: 9.0    mem len: 1000000    epsilon: 0.01    steps: 471    lr:
0.0      reward: 10.86
epis: 3346    score: 12.0    mem len: 1000000    epsilon: 0.01    steps: 436    lr:
0.0      reward: 10.86
epis: 3347    score: 9.0    mem len: 1000000    epsilon: 0.01    steps: 454    lr:
0.0      reward: 10.79
epis: 3348    score: 9.0    mem len: 1000000    epsilon: 0.01    steps: 454    lr:
0.0      reward: 10.81
epis: 3349    score: 11.0    mem len: 1000000    epsilon: 0.01    steps: 518    lr:
0.0      reward: 10.76
epis: 3350    score: 9.0    mem len: 1000000    epsilon: 0.01    steps: 454    lr:
0.0      reward: 10.69
epis: 3351    score: 12.0    mem len: 1000000    epsilon: 0.01    steps: 551    lr:
0.0      reward: 10.65
epis: 3352    score: 15.0    mem len: 1000000    epsilon: 0.01    steps: 526    lr:
0.0      reward: 10.66
epis: 3353    score: 11.0    mem len: 1000000    epsilon: 0.01    steps: 520    lr:
```

```
0.0     reward: 10.61
epis: 3354   score: 15.0   mem len: 1000000   epsilon: 0.01    steps: 526    lr:
0.0     reward: 10.6
epis: 3355   score: 15.0   mem len: 1000000   epsilon: 0.01    steps: 526    lr:
0.0     reward: 10.59
epis: 3356   score: 9.0   mem len: 1000000   epsilon: 0.01    steps: 454    lr:
0.0     reward: 10.53
epis: 3357   score: 9.0   mem len: 1000000   epsilon: 0.01    steps: 454    lr:
0.0     reward: 10.47
epis: 3358   score: 10.0   mem len: 1000000   epsilon: 0.01    steps: 486    lr:
0.0     reward: 10.42
epis: 3359   score: 9.0   mem len: 1000000   epsilon: 0.01    steps: 454    lr:
0.0     reward: 10.39
epis: 3360   score: 11.0   mem len: 1000000   epsilon: 0.01    steps: 538    lr:
0.0     reward: 10.41
epis: 3361   score: 9.0   mem len: 1000000   epsilon: 0.01    steps: 454    lr:
0.0     reward: 10.41
epis: 3362   score: 15.0   mem len: 1000000   epsilon: 0.01    steps: 526    lr:
0.0     reward: 10.46
epis: 3363   score: 9.0   mem len: 1000000   epsilon: 0.01    steps: 454    lr:
0.0     reward: 10.45
epis: 3364   score: 9.0   mem len: 1000000   epsilon: 0.01    steps: 454    lr:
0.0     reward: 10.45
epis: 3365   score: 9.0   mem len: 1000000   epsilon: 0.01    steps: 454    lr:
0.0     reward: 10.45
epis: 3366   score: 9.0   mem len: 1000000   epsilon: 0.01    steps: 454    lr:
0.0     reward: 10.44
epis: 3367   score: 9.0   mem len: 1000000   epsilon: 0.01    steps: 454    lr:
0.0     reward: 10.44
epis: 3368   score: 11.0   mem len: 1000000   epsilon: 0.01    steps: 545    lr:
0.0     reward: 10.39
epis: 3369   score: 10.0   mem len: 1000000   epsilon: 0.01    steps: 489    lr:
0.0     reward: 10.37
epis: 3370   score: 12.0   mem len: 1000000   epsilon: 0.01    steps: 582    lr:
0.0     reward: 10.34
epis: 3371   score: 13.0   mem len: 1000000   epsilon: 0.01    steps: 437    lr:
0.0     reward: 10.38
epis: 3372   score: 4.0   mem len: 1000000   epsilon: 0.01    steps: 246    lr:
0.0     reward: 10.32
epis: 3373   score: 10.0   mem len: 1000000   epsilon: 0.01    steps: 478    lr:
0.0     reward: 10.3
epis: 3374   score: 8.0   mem len: 1000000   epsilon: 0.01    steps: 443    lr:
0.0     reward: 10.26
epis: 3375   score: 7.0   mem len: 1000000   epsilon: 0.01    steps: 393    lr:
0.0     reward: 10.23
epis: 3376   score: 10.0   mem len: 1000000   epsilon: 0.01    steps: 518    lr:
0.0     reward: 10.21
epis: 3377   score: 11.0   mem len: 1000000   epsilon: 0.01    steps: 518    lr:
```

```
0.0      reward: 10.22
epis: 3378    score: 10.0   mem len: 1000000    epsilon: 0.01     steps: 487     lr:
0.0      reward: 10.24
epis: 3379    score: 10.0   mem len: 1000000    epsilon: 0.01     steps: 477     lr:
0.0      reward: 10.23
epis: 3380    score: 9.0   mem len: 1000000    epsilon: 0.01     steps: 454     lr:
0.0      reward: 10.22
epis: 3381    score: 9.0   mem len: 1000000    epsilon: 0.01     steps: 454     lr:
0.0      reward: 10.25
epis: 3382    score: 12.0   mem len: 1000000    epsilon: 0.01     steps: 534     lr:
0.0      reward: 10.25
epis: 3383    score: 12.0   mem len: 1000000    epsilon: 0.01     steps: 436     lr:
0.0      reward: 10.28
epis: 3384    score: 12.0   mem len: 1000000    epsilon: 0.01     steps: 436     lr:
0.0      reward: 10.34
epis: 3385    score: 5.0   mem len: 1000000    epsilon: 0.01     steps: 292     lr:
0.0      reward: 10.3
epis: 3386    score: 12.0   mem len: 1000000    epsilon: 0.01     steps: 436     lr:
0.0      reward: 10.29
epis: 3387    score: 12.0   mem len: 1000000    epsilon: 0.01     steps: 436     lr:
0.0      reward: 10.29
epis: 3388    score: 13.0   mem len: 1000000    epsilon: 0.01     steps: 613     lr:
0.0      reward: 10.3
epis: 3389    score: 9.0   mem len: 1000000    epsilon: 0.01     steps: 454     lr:
0.0      reward: 10.33
epis: 3390    score: 12.0   mem len: 1000000    epsilon: 0.01     steps: 436     lr:
0.0      reward: 10.33
epis: 3391    score: 12.0   mem len: 1000000    epsilon: 0.01     steps: 436     lr:
0.0      reward: 10.33
epis: 3392    score: 12.0   mem len: 1000000    epsilon: 0.01     steps: 436     lr:
0.0      reward: 10.39
epis: 3393    score: 9.0   mem len: 1000000    epsilon: 0.01     steps: 454     lr:
0.0      reward: 10.4
epis: 3394    score: 9.0   mem len: 1000000    epsilon: 0.01     steps: 472     lr:
0.0      reward: 10.37
```

2 Visualize Agent Performance

BE AWARE THIS CODE BELOW MAY CRASH THE KERNEL IF YOU RUN THE SAME CELL TWICE.

Please save your model before running this portion of the code.

```python
torch.save(agent.policy_net, "./save_model/breakout_double_dqn_latest.pth")
```

```python
from gym.wrappers import RecordVideo # If importing monitor raises issues, try
↪using `from gym.wrappers import RecordVideo`
import glob
```

```python
import io
import base64

from IPython.display import HTML
from IPython import display as ipythondisplay

from pyvirtualdisplay import Display

# Displaying the game live
def show_state(env, step=0, info=""):
    plt.figure(3)
    plt.clf()
    plt.imshow(env.render(mode='rgb_array'))
    plt.title("%s | Step: %d %s" % ("Agent Playing",step, info))
    plt.axis('off')

    ipythondisplay.clear_output(wait=True)
    ipythondisplay.display(plt.gcf())

# Recording the game and replaying the game afterwards
def show_video():
    mp4list = glob.glob('video/*.mp4')
    if len(mp4list) > 0:
        mp4 = mp4list[0]
        video = io.open(mp4, 'r+b').read()
        encoded = base64.b64encode(video)
        ipythondisplay.display(HTML(data='''<video alt="test" autoplay
                loop controls style="height: 400px;">
                <source src="data:video/mp4;base64,{0}" type="video/mp4" />
            </video>'''.format(encoded.decode('ascii'))))
    else:
        print("Could not find video")


def wrap_env(env):
    env = RecordVideo(env, './video')
    return env
```

```python
[7]: display = Display(visible=0, size=(300, 200))
display.start()

# Load agent
agent.load_policy_net("./save_model/breakout_double_dqn.pth")
agent.epsilon = 0.0 # Set agent to only exploit the best action

# env = gym.make('BreakoutDeterministic-v4')
env = gym.make('BreakoutDeterministic-v4', render_mode='rgb_array')
```

```python
env = wrap_env(env)

done = False
score = 0
step = 0
state = env.reset()
next_state = state
life = number_lives
history = np.zeros([5, 84, 84], dtype=np.uint8)
get_init_state(history, state, HISTORY_SIZE)

while not done:

    # Render breakout
#     env.render()
#     show_state(env,step) # uncommenting this provides another way to␣
 ↪visualize the game

    step += 1
    frame += 1

    # Perform a fire action if ball is no longer on screen
    if step > 1 and len(np.unique(next_state[:189] == state[:189])) < 2:
        action = 0
    else:
        action = agent.get_action(np.float32(history[:4, :, :]) / 255.)
    state = next_state

    next_state, reward, done, _, info = env.step(action + 1)

    frame_next_state = get_frame(next_state)
    history[4, :, :] = frame_next_state
    terminal_state = check_live(life, info['lives'])

    life = info['lives']
    r = np.clip(reward, -1, 1)
    r = reward

    # Store the transition in memory
    agent.memory.push(deepcopy(frame_next_state), action, r, terminal_state)
    # Start training after random sample generation
    score += reward

    history[:4, :, :] = history[1:, :, :]
env.close()
show_video()
display.stop()
```

```
/home/kaiwenjon/anaconda3/lib/python3.9/site-
packages/gym/wrappers/record_video.py:75: UserWarning: WARN: Overwriting
existing videos at /home/kaiwenjon/Documents/Spring2023/Deep-Learning-for-
CV/spring2023/MP5/assignment5_materials/assignment5_materials/video folder (try
specifying a different `video_folder` for the `RecordVideo` wrapper if this is
not desired)
  logger.warn(
/home/kaiwenjon/anaconda3/lib/python3.9/site-
packages/gym/utils/passive_env_checker.py:289: UserWarning: WARN: No render
fps was declared in the environment (env.metadata['render_fps'] is None or not
defined), rendering may occur at inconsistent fps.
  logger.warn(
/tmp/ipykernel_9118/432447683.py:31: VisibleDeprecationWarning: Creating an
ndarray from ragged nested sequences (which is a list-or-tuple of lists-or-
tuples-or ndarrays with different lengths or shapes) is deprecated. If you meant
to do this, you must specify 'dtype=object' when creating the ndarray.
  if step > 1 and len(np.unique(next_state[:189] == state[:189])) < 2:
/tmp/ipykernel_9118/432447683.py:31: DeprecationWarning: elementwise comparison
failed; this will raise an error in the future.
  if step > 1 and len(np.unique(next_state[:189] == state[:189])) < 2:

Moviepy - Building video /home/kaiwenjon/Documents/Spring2023/Deep-Learning-for-
CV/spring2023/MP5/assignment5_materials/assignment5_materials/video/rl-video-
episode-0.mp4.
Moviepy - Writing video /home/kaiwenjon/Documents/Spring2023/Deep-Learning-for-
CV/spring2023/MP5/assignment5_materials/assignment5_materials/video/rl-video-
episode-0.mp4




Moviepy - Done !
Moviepy - video ready /home/kaiwenjon/Documents/Spring2023/Deep-Learning-for-
CV/spring2023/MP5/assignment5_materials/assignment5_materials/video/rl-video-
episode-0.mp4


<IPython.core.display.HTML object>
```

[7]: `<pyvirtualdisplay.display.Display at 0x7fbd1a36ee50>`

[ ]: