## Treasure Hunt Game Notebook

## Read and Review Your Starter Code

The theme of this project is a popular treasure hunt game in which the player needs to find the treasure before the pirate does. While you will not be developing the entire game, you will write the part of the game that represents the intelligent agent, which is a pirate in this case. The pirate will try to find the optimal path to the treasure using deep Q-learning.

You have been provided with two Python classes and this notebook to help you with this assignment. The first class, TreasureMaze.py, represents the environment, which includes a maze object defined as a matrix. The second class, GameExperience.py, stores the episodes – that is, all the states that come in between the initial state and the terminal state. This is later used by the agent for learning by experience, called "exploration". This notebook shows how to play a game. Your task is to complete the deep Q-learning implementation for which a skeleton implementation has been provided. The code blocks you will need to complete has #TODO as a header.

First, read and review the next few code and instruction blocks to understand the code that you have been given.

```
In [1]: from __future__ import print_function
    import os, sys, time, datetime, json, random
    import numpy as np
    from keras.models import Sequential
    from keras.layers import Dense, Activation
    from keras.optimizers import SGD , Adam, RMSprop
    from keras.layers import PReLU
    import matplotlib.pyplot as plt
    from TreasureMaze import TreasureMaze
    from GameExperience import GameExperience
    %matplotlib inline
```

The following code block contains an 8x8 matrix that will be used as a maze object:

This helper function allows a visual representation of the maze object:

```
In [3]: def show(qmaze):
            plt.grid('on')
            nrows, ncols = qmaze.maze.shape
            ax = plt.gca()
            ax.set_xticks(np.arange(0.5, nrows, 1))
            ax.set_yticks(np.arange(0.5, ncols, 1))
            ax.set_xticklabels([])
            ax.set_yticklabels([])
            canvas = np.copy(qmaze.maze)
            for row,col in qmaze.visited:
                canvas[row,col] = 0.6
            pirate_row, pirate_col, _ = qmaze.state
            canvas[pirate_row, pirate_col] = 0.3
                                                   # pirate cell
            canvas[nrows-1, ncols-1] = 0.9 # treasure cell
            img = plt.imshow(canvas, interpolation='none', cmap='gray')
            return img
```

The pirate agent can move in four directions: left, right, up, and down.

While the agent primarily learns by experience through exploitation, often, the agent can choose to explore the environment to find previously undiscovered paths. This is called "exploration" and is defined by epsilon. This value is typically a lower value such as 0.1, which means for every ten attempts, the agent will attempt to learn by experience nine times and will randomly explore a new path one time. You are encouraged to try various values for the exploration factor and see how the algorithm performs.

```
In [4]: LEFT = 0
    UP = 1
    RIGHT = 2
    DOWN = 3

# Exploration factor
    epsilon = 0.1

# Actions dictionary
    actions_dict = {
        LEFT: 'left',
        UP: 'up',
        RIGHT: 'right',
        DOWN: 'down',
    }

num_actions = len(actions_dict)
```

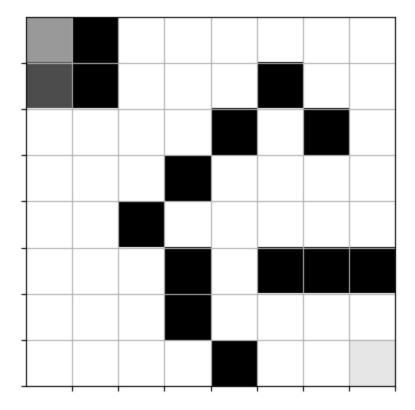
The sample code block and output below show creating a maze object and performing one action (DOWN), which returns the reward. The resulting updated environment is visualized.

```
In [5]: qmaze = TreasureMaze(maze)
    canvas, reward, game_over = qmaze.act(DOWN)
```

```
print("reward=", reward)
show(qmaze)
```

reward= -0.04

Out[5]: <matplotlib.image.AxesImage at 0x2af655bf890>



This function simulates a full game based on the provided trained model. The other parameters include the TreasureMaze object and the starting position of the pirate.

```
In [6]: def play_game(model, qmaze, pirate_cell):
    qmaze.reset(pirate_cell)
    envstate = qmaze.observe()
    while True:
        prev_envstate = envstate
        # get next action
        q = model.predict(prev_envstate)
        action = np.argmax(q[0])

# apply action, get rewards and new state
        envstate, reward, game_status = qmaze.act(action)
        if game_status == 'win':
            return True
        elif game_status == 'lose':
            return False
```

This function helps you to determine whether the pirate can win any game at all. If your maze is not well designed, the pirate may not win any game at all. In this case, your training would not yield any result. The provided maze in this notebook ensures that there is a path to win and you can run this method to check.

```
In [7]: def completion_check(model, qmaze):
    for cell in qmaze.free_cells:
        if not qmaze.valid_actions(cell):
            return False
        if not play_game(model, qmaze, cell):
            return False
        return True
```

The code you have been given in this block will build the neural network model. Review the code and note the number of layers, as well as the activation, optimizer, and loss functions that are used to train the model.

```
In [8]: def build_model(maze):
    model = Sequential()
    model.add(Dense(maze.size, input_shape=(maze.size,)))
    model.add(PReLU())
    model.add(Dense(maze.size))
    model.add(PReLU())
    model.add(Dense(num_actions))
    model.compile(optimizer='adam', loss='mse')
    return model
```

## #TODO: Complete the Q-Training Algorithm Code Block

This is your deep Q-learning implementation. The goal of your deep Q-learning implementation is to find the best possible navigation sequence that results in reaching the treasure cell while maximizing the reward. In your implementation, you need to determine the optimal number of epochs to achieve a 100% win rate.

You will need to complete the section starting with #pseudocode. The pseudocode has been included for you.

```
In [9]: def qtrain(model, maze, **opt):
    # exploration factor
    global epsilon

# number of epochs
    n_epoch = opt.get('n_epoch', 150)

# maximum memory to store episodes
    max_memory = opt.get('max_memory', 1000)

# maximum data size for training
    data_size = opt.get('data_size', 50)

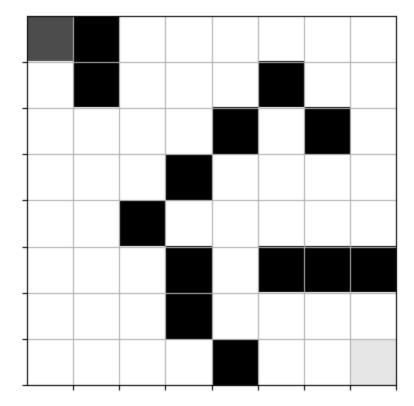
# start time
    start_time = datetime.datetime.now()
```

```
min_reward_before_death = -0.5
# Construct environment/game from numpy array: maze (see above)
qmaze = TreasureMaze(maze)
# Initialize experience replay object
experience = GameExperience(model, max_memory=max_memory)
win_history = []
                  # history of win/lose game
hsize = qmaze.maze.size//2 # history window size
win_rate = 0.0
loss = 0
# pseudocode:
# For each epoch:
for epoch in range(n_epoch):
    Agent_cell = randomly select a free cell
    open_cells = find_open_cells(maze)
    agent_cell = random.choice(open_cells)
    Reset the maze with agent set to above position
    qmaze.reset(agent_cell)
    Hint: Review the reset method in the TreasureMaze.py class.
    envstate = Environment.current_state
   envstate = qmaze.observe()
    Hint: Review the observe method in the TreasureMaze.py class.
    While state is not game over:
    while qmaze.game_status() == 'not_over' and qmaze.total_reward > min_reward
        previous_envstate = envstate
#
        prev_state = envstate
#
        Action = randomly choose action (left, right, up, down) either by expl
        action = random.choice(qmaze.valid_actions())
        envstate, reward, game_status = qmaze.act(action)
    Hint: Review the act method in the TreasureMaze.py class.
         episode = [previous_envstate, action, reward, envstate, game_status]
        episode = [prev_state,action,reward,envstate,game_status]
#
        Store episode in Experience replay object
        experience.remember(episode)
    Hint: Review the remember method in the GameExperience.py class.
         Train neural network model and evaluate loss
        inputs, targets = experience.get_data()
        model.fit(inputs,targets)
        loss = model.evaluate(inputs, targets)
    Hint: Call GameExperience.get_data to retrieve training data (input and ta
           to train the model. You can call model.evaluate to determine loss.
    If the win rate is above the threshold and your model passes the completion
    win_history.append(1 if qmaze.game_status()=="win" else 0)
    win_rate = sum(win_history)/len(win_history)
    n_episodes = len(experience.memory)
#Print the epoch, loss, episodes, win count, and win rate for each epoch
    dt = datetime.datetime.now() - start_time
    t = format_time(dt.total_seconds())
    template = "Epoch: \{:03d\}/\{:d\} \mid Loss: \{:.4f\} \mid Episodes: \{:d\} \mid Win count:
    print(template.format(epoch, n_epoch-1, loss, n_episodes, sum(win_history),
    # We simply check if training has exhausted all free cells and if in all
    # cases the agent won.
```

```
if win_rate > 0.9 : epsilon = 0.05
        if sum(win_history[-hsize:]) == hsize and completion_check(model, qmaze):
            print("Reached 100%% win rate at epoch: %d" % (epoch,))
            break
    # Determine the total time for training
    dt = datetime.datetime.now() - start_time
    seconds = dt.total_seconds()
    t = format_time(seconds)
    print("n_epoch: %d, max_mem: %d, data: %d, time: %s" % (n_epoch, max_memory, da
    return seconds
def find_open_cells(cells):
    out = []
    for y in range(len(cells)):
        row = cells[y]
        for x in range(len(row)):
            if row[x]==1:
                out.append((x,y))
    return out
def num_wins(history):
   wins = 0
    for i in history:
        if i == "win":
            wins+=1
    return wins
# This is a small utility for printing readable time strings:
def format_time(seconds):
    if seconds < 400:</pre>
        s = float(seconds)
        return "%.1f seconds" % (s,)
    elif seconds < 4000:
        m = seconds / 60.0
        return "%.2f minutes" % (m,)
    else:
        h = seconds / 3600.0
        return "%.2f hours" % (h,)
```

## Test Your Model

Now we will start testing the deep Q-learning implementation. To begin, select **Cell**, then **Run All** from the menu bar. This will run your notebook. As it runs, you should see output begin to appear beneath the next few cells. The code below creates an instance of TreasureMaze.



In the next code block, you will build your model and train it using deep Q-learning. Note: This step takes several minutes to fully run.

```
In [11]: model = build_model(maze)
qtrain(model, maze, epochs=1000, max_memory=8*maze.size, data_size=32)
```

**1/1 0s** 51ms/step

b:\Planning and stuff\Projects\SNHU Degree\Term 12 (2025 may-jun)\CS370 Current Tren ds (AI)\project\_2\.venv\Lib\site-packages\keras\src\layers\core\dense.py:93: UserWar ning: Do not pass an `input\_shape`/`input\_dim` argument to a layer. When using Seque ntial models, prefer using an `Input(shape)` object as the first layer in the model instead.

super().\_\_init\_\_(activity\_regularizer=activity\_regularizer, \*\*kwargs)

1/1	95	63ms/sten
1/1		
		688ms/step - loss: 0.0194
1/1	95	96ms/step - loss: 0.0015
1/1	95	30ms/sten
1/1		
1/1		
1/1		
		29ms/step - loss: 0.0634
		26ms/step - loss: 0.0453
1/1		
1/1		
1/1	0s	24ms/step
1/1		
1/1		
1/1		
		29ms/step - loss: 0.0271
		28ms/step - loss: 0.0235
1/1	0s	24ms/step
1/1		
1/1		
1/1		
1/1		
1/1		
1/1		
1/1		
1/1	0s	28ms/step - loss: 0.0318
1/1	0s	28ms/step - loss: 0.0228
1/1		
1/1		
1/1		
1/1		
1/1		
1/1		
1/1		
1/1 ———————————————————————————————————		
1/1		
		27ms/step - loss: 0.0288
1/1	05	27ms/step - 10ss: 0.0288 27ms/step - loss: 0.0248
1/1		
1/1		
1/1		
1/1	03	28ms/sten
1/1		
1/1		
1/1		
1/1		
1/1		
1/1		
1/1		
1/1	0s	25ms/step
1/1	0s	25ms/step - loss: 0.0246
		26ms/step - loss: 0.0229
1/1	0s	24ms/step
1/1	0s	23ms/step

```
1/1 -
              Os 22ms/step
                   - 0s 22ms/step
                  - 0s 22ms/step
1/1 ---
1/1 -
                   - 0s 21ms/step
                   - 0s 27ms/step
1/1 -
                 -- 0s 24ms/step
1/1 -----
1/1 -
                   - 0s 26ms/step
                   - 0s 25ms/step
                   - 0s 24ms/step
1/1 -
                   - 0s 29ms/step
         0s 24ms/step
1/1 -
1/1 Os 24ms/step
1/1 -
              Os 26ms/step - loss: 0.0215
Epoch: 000/149 | Loss: 0.0200 | Episodes: 7 | Win count: 0 | Win rate: 0.000 | time:
4.6 seconds
                  - 0s 24ms/step
1/1 ----
1/1 Os 26ms/step
                   - 0s 27ms/step
1/1 -
1/1 -
                  -- 0s 33ms/step
                 --- 0s 24ms/step
1/1 -
                   - 0s 22ms/step
1/1 ———— 0s 24ms/step
                   - 0s 22ms/step
1/1 -
                  - 0s 22ms/step
1/1 -
         0s 22ms/step
                  - 0s 23ms/step
                   - 0s 22ms/step
1/1 -
1/1 -----
                   - 0s 23ms/step
1/1 Os 22ms/step
                   - 0s 23ms/step
1/1 -
                 — 0s 24ms/step
                   - 0s 28ms/step - loss: 0.0273
                   - 0s 24ms/step - loss: 0.0244
1/1 -
             Os 21ms/step
1/1 -----
1/1 -
                   - 0s 23ms/step
1/1 -
                 — 0s 23ms/step
1/1 0s 23ms/step
                   - 0s 22ms/step
1/1 -
                   - 0s 21ms/step
1/1 -
                   - 0s 22ms/step
1/1 -
1/1 Os 23ms/step
                   - 0s 27ms/step
1/1 -
                  — 0s 29ms/step
                   - 0s 24ms/step
                   - 0s 24ms/step
1/1 -
1/1 -
                 —— 0s 22ms/step
1/1 -
                   - 0s 24ms/step
                   - 0s 24ms/step
1/1 -
               Os 23ms/step
1/1 -
                   - 0s 23ms/step
    Os 24ms/step
1/1 -
               —— 0s 29ms/step - loss: 0.0220
1/1 -
           Os 26ms/step - loss: 0.0197
1/1 -
                   - 0s 23ms/step
1/1 -
           0s 22ms/step
```

1/1					
1/1					
1/1	0s	23ms/step			
1/1					
1/1	0s	22ms/step			
1/1	0s	23ms/step			
1/1	0s	23ms/step			
1/1	0s	24ms/step			
1/1					
1/1	0s	23ms/step			
1/1	0s	29ms/step			
1/1					
1/1	0s	26ms/step			
1/1	0s	25ms/step			
1/1	0s	23ms/step			
1/1	0s	25ms/step			
1/1					
1/1	0s	24ms/step			
1/1	0s	26ms/step	-	loss:	0.0165
1/1			-	loss:	0.0152
1/1					
1/1	0s	24ms/step			
1/1	0s	24ms/step			
1/1	0s	23ms/step			
1/1					
1/1	0s	22ms/step			
1/1	0s	22ms/step			
1/1	0s	24ms/step			
1/1	0s	24ms/step			
1/1	0s	22ms/step			
1/1	0s	23ms/step			
1/1	0s	24ms/step			
1/1	0s	23ms/step			
1/1					
1/1	0s	26ms/step			
1/1					
1/1	0s	23ms/step			
1/1	0s	23ms/step			
1/1					
1/1					
1/1	0s	25ms/step	-	loss:	0.0128
1/1			-	loss:	0.0111
1/1					
1/1					
1/1	0s	23ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	22ms/step			
1/1					
1/1	0s	22ms/step			
1/1	0s	22ms/step			
1/1	0s	25ms/step			
1/1					
		•			

```
1/1 -
                 Os 27ms/step
                    - 0s 28ms/step
                    - 0s 23ms/step
                     - 0s 22ms/step
                     - 0s 22ms/step
1/1 -
                    — 0s 23ms/step
1/1 ----
1/1 -
                    - 0s 24ms/step - loss: 0.0115
                    - 0s 25ms/step - loss: 0.0124
                     - 0s 28ms/step
1/1 -
                    - 0s 22ms/step
                     - 0s 23ms/step
1/1 -
                     - 0s 23ms/step
1/1 -----
                    - 0s 24ms/step
1/1 -
                    - 0s 23ms/step
1/1 -
                    - 0s 29ms/step
1/1 -
                     - 0s 23ms/step
1/1 -
1/1 -
                    - 0s 23ms/step
                   — 0s 23ms/step
1/1 ---
                    - 0s 24ms/step
1/1 -
                    - 0s 23ms/step
                    - 0s 27ms/step
1/1 -
                    - 0s 25ms/step
1/1 -----
                   — 0s 25ms/step
                    - 0s 27ms/step
1/1 -
                    - 0s 27ms/step
1/1 -
                Os 26ms/step
                    - 0s 23ms/step
1/1 -----
                     - 0s 23ms/step
1/1 ——— 0s 26ms/step - loss: 0.0072
Epoch: 001/149 | Loss: 0.0072 | Episodes: 13 | Win count: 0 | Win rate: 0.000 | time
: 11.0 seconds
1/1 ——— 0s 25ms/step
                     - 0s 24ms/step
1/1 -
1/1 -----
                Os 25ms/step
1/1 -
                    - 0s 21ms/step
1/1 -
                    - 0s 23ms/step
                    - 0s 23ms/step
                    - 0s 22ms/step
1/1 -
                     - 0s 22ms/step
1/1 -
                    - 0s 22ms/step
1/1 -----
                  —— 0s 22ms/step
                     - 0s 23ms/step
1/1 -
                    — 0s 23ms/step
                     - 0s 22ms/step
                     - 0s 21ms/step
1/1 -
1/1 -
                   — 0s 22ms/step
1/1 -
                    - 0s 21ms/step
                     - 0s 25ms/step
1/1 -
                   --- 0s 24ms/step
                     - 0s 27ms/step
    0s 24ms/step
1/1 -
                     - 0s 26ms/step - loss: 0.0094
1/1 -
                Os 25ms/step - loss: 0.0112
1/1 -
                    - 0s 22ms/step
1/1 -
            0s 22ms/step
```

1/1	0s	23ms/step			
1/1	0s	24ms/step			
1/1	0s	23ms/step			
1/1	0s	23ms/step			
1/1	0s	23ms/step			
1/1	0s	23ms/step			
1/1	0s	23ms/step			
1/1	0s	23ms/step			
			-	loss:	0.0118
1/1	0s	22ms/step			
1/1	0s	23ms/step			
1/1	0s	24ms/step			
1/1	0s	23ms/step			
1/1	05	22ms/step			
1/1	05	241115/Step			
1/1	05	2/ms/step			
			_	loss:	0.0077
1/1	0s	32ms/step	_	loss:	0.0080
1/1	0s	25ms/step			
1/1	0s	23ms/step			
1/1	0s	24ms/step			
1/1	0s	24ms/step			
1/1	0s	24ms/step			
1/1	0s	37ms/step			
1/1	0s	25ms/step			
1/1	0s	22ms/step			
1/1	0s	29ms/step			

```
1/1 -
                 Os 23ms/step
                     - 0s 22ms/step
                     - 0s 23ms/step
1/1 -
1/1 -
                      - 0s 24ms/step
                      - 0s 27ms/step
1/1 -
                   —— 0s 30ms/step
1/1 -----
1/1 -
                     - 0s 34ms/step - loss: 0.0088
             0s 35ms/step - loss: 0.0088
Epoch: 002/149 | Loss: 0.0088 | Episodes: 17 | Win count: 0 | Win rate: 0.000 | time
: 15.7 seconds
                      - 0s 22ms/step
1/1 -
1/1 -----
                      - 0s 28ms/step
1/1 ---
                     - 0s 26ms/step
1/1 -----
                      - 0s 24ms/step
1/1 -
                     - 0s 26ms/step
                      0s 22ms/step
1/1 -
1/1 -
                      - 0s 24ms/step
                    — 0s 24ms/step
1/1 ---
                      - 0s 29ms/step
1/1 -
1/1 -
                     - 0s 24ms/step
                     - 0s 29ms/step
1/1 -
                      - 0s 22ms/step
1/1 -----
                   —— 0s 24ms/step
                      - 0s 24ms/step
1/1 -
                     - 0s 26ms/step
1/1 -
                 Os 26ms/step
                     - 0s 29ms/step
                      - 0s 22ms/step
1/1 -
1/1 -----
                      - 0s 33ms/step
1/1 -----
           Os 32ms/step
                      - 0s 27ms/step - loss: 0.0126
1/1 -
                    — 0s 28ms/step - loss: 0.0123
                      - 0s 26ms/step
                      - 0s 22ms/step
1/1 -
                    — 0s 27ms/step
1/1 -
1/1 -
                      - 0s 23ms/step
1/1 -
                     - 0s 27ms/step
                     - 0s 24ms/step
                     - 0s 27ms/step
1/1 -
                      - 0s 23ms/step
1/1 -
                      - 0s 23ms/step
1/1 -
1/1 -----
                   —— 0s 23ms/step
                      - 0s 27ms/step
1/1 -
                     — 0s 25ms/step
                      - 0s 25ms/step
                      - 0s 23ms/step
1/1 -
1/1 -
                    — 0s 29ms/step
1/1 -
                     - 0s 25ms/step
                      - 0s 23ms/step
1/1 -
                   —— 0s 31ms/step
                      - 0s 37ms/step
1/1 -
     0s 27ms/step
1/1 -
                   --- 0s 28ms/step - loss: 0.0068
1/1 -
                 Os 29ms/step - loss: 0.0056
1/1 -
                     - 0s 27ms/step
1/1 -
             0s 24ms/step
```

1/1	00	26mc/c+on			
1/1					
1/1					
1/1	05	28ms/step			
1/1					
1/1	0s	26ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	23ms/step			
1/1	0s	25ms/step			
1/1	0s	24ms/step			
1/1					
1/1	0s	28ms/step			
1/1	0s	28ms/step			
1/1					
1/1			_	loss:	0.0031
1/1					
1/1					
1/1	0s	25ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	OS OS	32ms/step			
1/1					
1/1	05	20113/3tep			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	43ms/step			
1/1					
1/1					
				,	0 0007
1/1					
1/1			-	1055:	0.0083
1/1	05	26ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	27ms/step			
1/1	0s	25ms/step			
1/1					
1/1					
1/1	0s	33ms/step			
1/1	0s	22ms/step			

```
1/1 -
                Os 33ms/step
                    - 0s 32ms/step
                    - 0s 32ms/step
                    - 0s 27ms/step
                    - 0s 28ms/step
1/1 -
                  — 0s 25ms/step
1/1 -----
1/1 -
                    - 0s 30ms/step - loss: 0.0044
                    — 0s 26ms/step - loss: 0.0038
                    - 0s 24ms/step
1/1 -
                    - 0s 27ms/step
                    - 0s 26ms/step
1/1 -
                    - 0s 25ms/step
1/1 -----
                    - 0s 32ms/step
1/1 -
                    - 0s 27ms/step
1/1 -
                    - 0s 23ms/step
1/1 -
                    - 0s 25ms/step
1/1 -
1/1 -
                    - 0s 24ms/step
                  — 0s 27ms/step
1/1 ----
                    - 0s 28ms/step
1/1 -
                    - 0s 24ms/step
                    - 0s 28ms/step
1/1 -
                    - 0s 39ms/step
1/1 -----
                  —— 0s 28ms/step
                    - 0s 24ms/step
1/1 -
                    - 0s 30ms/step
1/1 -
           0s 28ms/step
                   - 0s 28ms/step
1/1 -----
                    - 0s 31ms/step
1/1 ——— 0s 27ms/step - loss: 0.0063
Epoch: 003/149 | Loss: 0.0063 | Episodes: 23 | Win count: 0 | Win rate: 0.000 | time
: 23.2 seconds
1/1 ——— 0s 24ms/step
                    - 0s 25ms/step
1/1 -
1/1 -----
               Os 25ms/step
1/1 -
                    - 0s 26ms/step
1/1 -
                   - 0s 29ms/step
1/1 ———— 0s 27ms/step
                    - 0s 26ms/step
1/1 -
                    - 0s 38ms/step
1/1 -
                    - 0s 25ms/step
1/1 -----
           Os 23ms/step
                    - 0s 31ms/step
1/1 -
                   — 0s 28ms/step
                    - 0s 30ms/step
                    - 0s 23ms/step
1/1 -
1/1 -
                  — 0s 27ms/step
1/1 -
                    - 0s 26ms/step
                    - 0s 26ms/step
1/1 -
                  —— 0s 29ms/step
                    - 0s 22ms/step
    0s 24ms/step
1/1 -
                 --- 0s 37ms/step - loss: 0.0011
1/1 -
               Os 28ms/step - loss: 0.0013
1/1 -
                    - 0s 25ms/step
1/1 -
            0s 31ms/step
```

1/1					
1/1					
1/1	0s	30ms/step			
1/1					
1/1	0s	24ms/step			
1/1	0s	24ms/step			
1/1	0s	23ms/step			
1/1	0s	31ms/step			
1/1					
1/1	0s	34ms/step			
1/1	0s	34ms/step			
1/1					
1/1	0s	32ms/step			
1/1	0s	28ms/step			
1/1	0s	29ms/step			
1/1	0s	29ms/step			
1/1					
1/1	0s	27ms/step			
1/1	0s	37ms/step	-	loss:	0.0042
1/1			-	loss:	0.0043
1/1					
1/1	0s	24ms/step			
1/1	0s	24ms/step			
1/1	0s	25ms/step			
1/1					
1/1	0s	26ms/step			
1/1	0s	28ms/step			
1/1	0s	30ms/step			
1/1	0s	28ms/step			
1/1	0s	27ms/step			
1/1	0s	28ms/step			
1/1	0s	27ms/step			
1/1	0s	28ms/step			
1/1					
1/1	0s	25ms/step			
1/1					
1/1	0s	26ms/step			
1/1	0s	24ms/step			
1/1					
1/1					
1/1	0s	35ms/step	-	loss:	0.0034
1/1			-	loss:	0.0035
1/1					
1/1					
1/1	0s	29ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	33ms/step			
1/1					
1/1					
1/1	0s	27ms/step			
1/1	0s	27ms/step			
1/1	0s	24ms/step			
1/1					
		•			

16 of 316

```
1/1 -
                 Os 23ms/step
1/1 -
                     - 0s 27ms/step
                     - 0s 25ms/step
1/1 -
1/1 -
                      - 0s 25ms/step
                      - 0s 28ms/step
1/1 -
                   —— 0s 22ms/step
1/1 -----
1/1 -
                     - 0s 37ms/step - loss: 0.0026
             0s 26ms/step - loss: 0.0025
Epoch: 004/149 | Loss: 0.0025 | Episodes: 27 | Win count: 0 | Win rate: 0.000 | time
: 28.4 seconds
1/1 -
                      - 0s 24ms/step
1/1 -----
                      - 0s 27ms/step
                     - 0s 27ms/step
1/1 ---
1/1 -----
                      - 0s 37ms/step
                     - 0s 32ms/step
1/1 -
                      0s 29ms/step
1/1 -
1/1 -
                      - 0s 30ms/step
                    — 0s 31ms/step
1/1 ---
                      - 0s 27ms/step
1/1 -
1/1 -
                     - 0s 28ms/step
                     - 0s 31ms/step
1/1 -
                      - 0s 27ms/step
1/1 -----
                   —— 0s 27ms/step
                      - 0s 30ms/step
1/1 -
                     - 0s 29ms/step
1/1 -
                 Os 26ms/step
1/1 -
                     - 0s 25ms/step
                      - 0s 28ms/step
1/1 -
1/1 -----
                      - 0s 26ms/step
1/1 -----
           Os 24ms/step
                      - 0s 32ms/step - loss: 0.0015
1/1 -
                     — 0s 30ms/step - loss: 0.0018
                      - 0s 27ms/step
                      - 0s 32ms/step
1/1 -
                    — 0s 37ms/step
1/1 -
1/1 -
                      - 0s 33ms/step
1/1 -
                     - 0s 33ms/step
                     - 0s 25ms/step
                      - 0s 23ms/step
1/1 -
                      - 0s 38ms/step
1/1 -
                      - 0s 29ms/step
1/1 -
1/1 -----
                   Os 30ms/step
                      - 0s 33ms/step
1/1 -
                     — 0s 33ms/step
                      - 0s 38ms/step
                      - 0s 33ms/step
1/1 -
1/1 -
                    — 0s 29ms/step
1/1 -
                     - 0s 23ms/step
                      - 0s 24ms/step
1/1 -
                    Os 29ms/step
1/1 -
                      - 0s 26ms/step
     0s 32ms/step
1/1 -
                      - 0s 38ms/step - loss: 0.0034
1/1 -
                 Os 32ms/step - loss: 0.0035
1/1 -
                     - 0s 27ms/step
1/1 -
             0s 34ms/step
```

```
1/1 -
                  Os 26ms/step
                      - 0s 23ms/step
                      - 0s 42ms/step
1/1 -
                       - 0s 29ms/step
1/1 -
                       - 0s 26ms/step
1/1 -
                      - 0s 25ms/step
1/1 -----
1/1 -
                       - 0s 27ms/step
                       - 0s 26ms/step
                       - 0s 24ms/step
1/1 -
                       - 0s 28ms/step
1/1 -
                       - 0s 29ms/step
1/1 -----
                       - 0s 28ms/step
                      - 0s 28ms/step
1/1 -
                       - 0s 30ms/step
1/1 -
                      - 0s 29ms/step
1/1 -
                       - 0s 30ms/step
1/1 -
1/1 -
                      - 0s 26ms/step
1/1 -----
                   ____ 0s 27ms/step
                      - 0s 31ms/step - loss: 0.0025
1/1 -
                    Os 30ms/step - loss: 0.0024
Epoch: 005/149 | Loss: 0.0024 | Episodes: 30 | Win count: 0 | Win rate: 0.000 | time
: 32.5 seconds
1/1 -----
                      — 0s 25ms/step
1/1 -
                      - 0s 29ms/step
                      - 0s 24ms/step
1/1 -
1/1 os 37ms/step
1/1 -
                      - 0s 28ms/step
                       - 0s 30ms/step
1/1 -
1/1 -----
                      - 0s 30ms/step
1/1 -----
                    —— 0s 28ms/step
                      - 0s 29ms/step
1/1 -
                      — 0s 27ms/step
                       - 0s 26ms/step
                       - 0s 26ms/step
1/1 -
1/1 -----
                    — 0s 37ms/step
1/1 -
                      - 0s 26ms/step
1/1 -
                      - 0s 35ms/step
                      - 0s 36ms/step
                      - 0s 33ms/step
1/1 -
                       - 0s 25ms/step
1/1 -
                       - 0s 30ms/step
1/1 -
1/1 -----
                    Os 34ms/step
                       - 0s 26ms/step - loss: 0.0026
1/1 -
                      – 0s 31ms/step - loss: 0.0026
                       - 0s 26ms/step
                       - 0s 38ms/step
1/1 -
1/1 -
                       - 0s 28ms/step
1/1 -
                      - 0s 26ms/step
                       - 0s 25ms/step
1/1 -
                      - 0s 27ms/step
1/1 -
                       - 0s 34ms/step
1/1 -
                       - 0s 32ms/step
                       - 0s 27ms/step
1/1 -
1/1 -
                  Os 24ms/step
                      - 0s 29ms/step
1/1 -
             Os 29ms/step
```

```
1/1 -
                    Os 30ms/step
                      - 0s 31ms/step
                       - 0s 35ms/step
1/1 -
1/1 -
                       - 0s 23ms/step
                       - 0s 22ms/step
1/1 -
                       - 0s 23ms/step
1/1 -
1/1 -
                       - 0s 29ms/step
                       - 0s 28ms/step
                       - 0s 30ms/step - loss: 0.0027
                      - 0s 25ms/step - loss: 0.0027
1/1 -
                       - 0s 25ms/step
1/1 -
1/1 -----
                       - 0s 23ms/step
                       - 0s 28ms/step
1/1 -
                       - 0s 29ms/step
1/1 -
1/1 -
                       0s 25ms/step
                       - 0s 27ms/step
1/1 -
1/1 -
                       - 0s 28ms/step
                       - 0s 25ms/step
1/1 ---
                       - 0s 30ms/step
1/1 -
1/1 -
                       - 0s 31ms/step
                      - 0s 33ms/step
1/1 -
                       - 0s 33ms/step
1/1 -----
                       - 0s 32ms/step
                       - 0s 30ms/step
1/1 -
                      - 0s 24ms/step
1/1 -
                      - 0s 29ms/step
                      - 0s 25ms/step
                       - 0s 25ms/step
1/1 -
1/1 -----
                       - 0s 31ms/step
1/1 -----
                    Os 36ms/step
                      - 0s 38ms/step - loss: 0.0030
1/1 -
                      — 0s 29ms/step - loss: 0.0028
                       - 0s 34ms/step
                       - 0s 29ms/step
1/1 -
                     — 0s 23ms/step
1/1 -
1/1 -
                      - 0s 26ms/step
1/1 -
                      - 0s 24ms/step
                      0s 23ms/step
                       - 0s 27ms/step
1/1 -
                       - 0s 32ms/step
1/1 -
                       - 0s 39ms/step
1/1 -
1/1 -----
                    Os 30ms/step
                       - 0s 22ms/step
1/1 -
                      - 0s 27ms/step
                       - 0s 27ms/step
                       - 0s 24ms/step
1/1 -
1/1 -
                       - 0s 24ms/step
1/1 -
                      - 0s 26ms/step
                       - 0s 27ms/step
1/1 -
                      - 0s 29ms/step
1/1 -
                       - 0s 28ms/step
     0s 28ms/step
1/1 -
          Os 32ms/step - loss: 0.0021
1/1 -
1/1 ——— 0s 29ms/step - loss: 0.0020
Epoch: 006/149 | Loss: 0.0020 | Episodes: 34 | Win count: 0 | Win rate: 0.000 | time
: 37.8 seconds
```

1/1	0s	28ms/step			
1/1	0s	24ms/step			
1/1	0s	29ms/step			
1/1	0s	24ms/step			
1/1	05	28111S/Step			
1/1	0s	27ms/step			
1/1	 0s	28ms/step			
1/1	0s	33ms/step			
1/1	95	33ms/sten			
			_	1000	0 0013
			_	1055.	0.0014
1/1	<b>0</b> S	35ms/step			
1/1	0s	37ms/step			
1/1	0s	30ms/step			
1/1	0s	31ms/step			
1/1	0s	33ms/step			
1/1	0s	33ms/step			
1/1	0s	31ms/step			
			-	loss:	0.0039
1/1	OS OS	3/ms/step			
±/± 1/1	OS OS	29mc/c+an			
1/1	05	20115/Step			
1/1	۷S	3∠ms/step			

```
1/1 -
                 Os 24ms/step
                     - 0s 27ms/step
                     - 0s 25ms/step
1/1 ---
1/1 -
                     - 0s 31ms/step
                     - 0s 30ms/step
1/1 -
                   — 0s 35ms/step
1/1 -----
1/1 -
                     - 0s 36ms/step
                     - 0s 36ms/step
             Os 35ms/step - loss: 0.0023
                Os 35ms/step - loss: 0.0022
1/1 -
Epoch: 007/149 | Loss: 0.0022 | Episodes: 37 | Win count: 0 | Win rate: 0.000 | time
: 42.0 seconds
                    — 0s 27ms/step
1/1 -----
     0s 28ms/step
1/1 -
                     - 0s 26ms/step
1/1 ---
                     - 0s 32ms/step
1/1 -
1/1 -----
                     - 0s 27ms/step
1/1 -----
                   — 0s 27ms/step
                     - 0s 29ms/step
1/1 -
1/1 -
                     - 0s 31ms/step
                     - 0s 27ms/step
1/1 -
                     - 0s 27ms/step
1/1 -----
                   —— 0s 27ms/step
                     - 0s 33ms/step
1/1 -
                     - 0s 29ms/step
1/1 -
           0s 28ms/step
                     - 0s 33ms/step
                     - 0s 28ms/step
1/1 -
1/1 -----
                     - 0s 28ms/step
1/1 -----
                   Os 25ms/step
                     - 0s 28ms/step
1/1 -
                     — 0s 33ms/step
                     - 0s 38ms/step - loss: 0.0025
                     - 0s 30ms/step - loss: 0.0024
1/1 -
1/1 -----
                   Os 34ms/step
1/1 -
                     - 0s 25ms/step
1/1 -
                     - 0s 32ms/step
                     - 0s 24ms/step
                     - 0s 32ms/step
1/1 -
                     - 0s 30ms/step
1/1 -
                     - 0s 34ms/step
1/1 ----
1/1 -----
                  —— 0s 29ms/step
                     - 0s 27ms/step
1/1 -
                     — 0s 30ms/step
                     - 0s 32ms/step
                     - 0s 30ms/step
1/1 -
1/1 -
                    — 0s 31ms/step
1/1 -
                     - 0s 26ms/step
                     - 0s 29ms/step
1/1 -
                     - 0s 32ms/step
1/1 -
                     - 0s 34ms/step
                     - 0s 30ms/step
1/1 -
                     - 0s 27ms/step
1/1 -
               Os 29ms/step
1/1 -
       Os 31ms/step - loss: 0.0023
1/1 -
            0s 30ms/step - loss: 0.0022
```

1/1	0s	26ms/step			
1/1					
1/1	0s	29ms/step			
1/1	0s	35ms/step			
1/1	0s	33ms/step			
1/1	0s	28ms/step			
1/1					
1/1					
1/1					
1/1	OS OS	33ms/step			
1/1					
1/1	05	331113/ Step			
1/1					
1/1	05	33ms/step			
1/1					
1/1					
1/1	0s	29ms/step			
1/1					
1/1	0s	26ms/step			
1/1					
1/1					
1/1			-	loss:	0.0035
1/1					
1/1					
1/1	0s	23ms/step			
1/1					
1/1	0s	37ms/step			
1/1	0s	36ms/step			
1/1					
1/1	0s	32ms/step			
1/1	0s	26ms/step			
1/1	0s	30ms/step			
1/1	0s	30ms/step			
1/1	0s	29ms/step			
1/1					
1/1	0s	27ms/step			
1/1					
1/1	0s	33ms/step			
1/1					
1/1					
1/1					
1/1	05	26ms/step			
1/1			_	loss:	0.0020
1/1	95	34ms/step	_	loss:	0.0020
1/1				1033.	0.0020
1/1					
1/1					
1/1					
1/1					
1/1	05	20ms/step			
1/1					
1/1	05	30mc/s+on			
1/1					
1/1	05	24mc/s+c=			
1/1					
1/1					
1/1	<b>U</b> S	z4ms/step			

```
1/1 -
                Os 30ms/step
                     - 0s 30ms/step
                     - 0s 25ms/step
1/1 -
                     - 0s 31ms/step
                     - 0s 28ms/step
1/1 -
                     - 0s 31ms/step
1/1 ----
                     - 0s 32ms/step
1/1 -
                     - 0s 30ms/step
                     - 0s 40ms/step - loss: 0.0018
                     – 0s 38ms/step - loss: 0.0017
1/1 -
                     - 0s 28ms/step
1/1 -
1/1 -----
                     - 0s 30ms/step
                     - 0s 32ms/step
1/1 -
                     - 0s 30ms/step
1/1 -
1/1 -
                     - 0s 33ms/step
1/1 -
                     0s 29ms/step
1/1 -
                     - 0s 28ms/step
                    — 0s 28ms/step
1/1 ---
                     - 0s 28ms/step
1/1 -
                     - 0s 29ms/step
                     - 0s 32ms/step
1/1 -
                     - 0s 28ms/step
1/1 -----
                   —— 0s 31ms/step
                     - 0s 33ms/step
1/1 -
                     - 0s 25ms/step
1/1 -
                Os 28ms/step
                     - 0s 33ms/step
                     - 0s 33ms/step
1/1 -
1/1 -----
                     - 0s 33ms/step
1/1 ——— 0s 29ms/step
                     - 0s 37ms/step - loss: 0.0017
1/1 -
1/1 ———— 0s 31ms/step - loss: 0.0017
Epoch: 008/149 | Loss: 0.0017 | Episodes: 43 | Win count: 0 | Win rate: 0.000 | time
: 50.4 seconds
1/1 -
                     - 0s 31ms/step
1/1 -
                  —— 0s 28ms/step
1/1 -
                   -- 0s 36ms/step
1/1 ---- 0s 31ms/step
                     - 0s 27ms/step
1/1 -
                     - 0s 30ms/step
1/1 -
                     - 0s 33ms/step
1/1 -
1/1 -----
            Os 29ms/step
                     - 0s 30ms/step
1/1 -
                    — 0s 31ms/step
                     - 0s 36ms/step
                     - 0s 26ms/step
1/1 -
1/1 -
                   --- 0s 43ms/step
1/1 -
                     - 0s 37ms/step
                     - 0s 25ms/step
1/1 -
                   —— 0s 27ms/step
1/1 -
                     - 0s 27ms/step
     Os 28ms/step
1/1 -
                     - 0s 31ms/step
1/1 -
                Os 32ms/step
1/1 -
            Os 33ms/step - loss: 0.0031
1/1 -
            Os 28ms/step - loss: 0.0030
```

1/1	0s	30ms/step			
1/1	0s	28ms/step			
1/1	0s	27ms/step			
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	29ms/step			
1/1					
1/1	0s	38ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	28ms/step			
1/1					
1/1	0s	32ms/step			
1/1					
1/1					
1/1			-	loss:	0.0022
1/1					
1/1					
1/1	0s	31ms/step			
1/1					
1/1	0s	25ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	24ms/step			
1/1					
1/1					
1/1					
1/1	0s	37ms/step			
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1				,	0 0043
1/1					
1/1			-	loss:	0.0013
1/1					
1/1					
1/1					
1/1					
1/1	0S	31ms/step			
1/1	0S	31ms/step			
1/1	05	36ms/step			
1/1	US	29ms/step			
1/1	US	32ms/step			
1/1					
1/1 ———————————————————————————————————					
1/1	ØS	∠oms/step			

```
1/1 -
                Os 29ms/step
                    - 0s 31ms/step
                    - 0s 26ms/step
1/1 ---
1/1 -
                     - 0s 24ms/step
                     - 0s 28ms/step
1/1 -
                   — 0s 32ms/step
1/1 -----
                    - 0s 28ms/step
1/1 -
                    - 0s 34ms/step
             0s 34ms/step - loss: 0.0029
               ---- 0s 36ms/step - loss: 0.0028
1/1 -
Epoch: 009/149 | Loss: 0.0028 | Episodes: 47 | Win count: 0 | Win rate: 0.000 | time
: 56.1 seconds
                    — 0s 34ms/step
1/1 -----
     0s 31ms/step
1/1 -
                    - 0s 35ms/step
1/1 ---
                     - 0s 25ms/step
1/1 -
1/1 -----
                    - 0s 28ms/step
1/1 -----
                   — 0s 31ms/step
                    - 0s 33ms/step
1/1 -
1/1 -
                    - 0s 27ms/step
                   Os 25ms/step
1/1 -
                    - 0s 30ms/step
1/1 -----
                  —— 0s 24ms/step
                    - 0s 25ms/step
1/1 -
                    - 0s 28ms/step
1/1 -
           0s 32ms/step
                    - 0s 31ms/step
                     - 0s 29ms/step
1/1 -
1/1 -----
                    - 0s 25ms/step
1/1 Os 23ms/step
                    - 0s 34ms/step
1/1 -
                    — 0s 28ms/step
                     - 0s 39ms/step - loss: 0.0034
                     - 0s 31ms/step - loss: 0.0031
1/1 -
1/1 -----
                Os 25ms/step
1/1 -
                    - 0s 37ms/step
1/1 -
                    - 0s 30ms/step
1/1 ---- 0s 38ms/step
                    - 0s 28ms/step
1/1 -
                     - 0s 33ms/step
1/1 -
                    - 0s 24ms/step
1/1 ----
1/1 Os 31ms/step
                     - 0s 26ms/step
1/1 -
                    — 0s 26ms/step
                     - 0s 30ms/step
                     - 0s 24ms/step
1/1 -
1/1 -
                   — 0s 27ms/step
1/1 -
                    - 0s 34ms/step
                     - 0s 28ms/step
1/1 -
                    - 0s 29ms/step
1/1 -
                     - 0s 32ms/step
1/1 -
                     - 0s 30ms/step
                    - 0s 28ms/step
1/1 -
            Os 25ms/step
1/1 -
       Os 35ms/step - loss: 0.0023
1/1 -
           0s 35ms/step - loss: 0.0021
```

1/1					
1/1					
1/1	0s	29ms/step			
1/1					
1/1	0s	33ms/step			
1/1	0s	34ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	27ms/step			
1/1					
1/1	05	35ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	36ms/step			
1/1				1000	0 0020
1/1	05	3/ms/step	_	1055.	0.0020
1/1			_	1055.	0.0021
1/1					
1/1					
1/1					
1/1					
1/1	05	28ms/step			
1/1	05	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1				_	
1/1	0s	34ms/step	-	loss:	0.0019
1/1	0s	37ms/step	-	loss:	0.0019
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	40ms/step			
1/1	0s	37ms/step			
1/1					
1/1					
1/1	0s	37ms/step			
1/1	0s	34ms/step			

```
1/1 -
                    —— 0s 33ms/step
                      - 0s 31ms/step
1/1 -
                      0s 31ms/step
1/1 -
                       - 0s 32ms/step
                       - 0s 26ms/step
1/1 -
                       - 0s 33ms/step
1/1 -
1/1 -
                       - 0s 30ms/step
                       - 0s 41ms/step
                       - 0s 34ms/step - loss: 9.7708e-04
                      - 0s 32ms/step - loss: 8.1414e-04
1/1 -
                       - 0s 33ms/step
1/1 -
1/1 -----
                       - 0s 43ms/step
                      - 0s 38ms/step
1/1 -
                       - 0s 39ms/step
1/1 -
1/1 -
                      0s 31ms/step
1/1 -
                       - 0s 27ms/step
1/1 -
                      - 0s 24ms/step
                       - 0s 28ms/step
1/1 ---
                       - 0s 25ms/step
1/1 -
1/1 -
                       - 0s 31ms/step
                      - 0s 24ms/step
                       - 0s 37ms/step
1/1 -
1/1 -----
                       - 0s 31ms/step
                       - 0s 29ms/step
1/1 -
                      - 0s 35ms/step
1/1 -
                      - 0s 28ms/step
                      - 0s 28ms/step
                       - 0s 26ms/step
1/1 -
                       - 0s 32ms/step
1/1 -
1/1 -----
            Os 27ms/step
                      - 0s 44ms/step - loss: 0.0030
1/1 -
                      — 0s 40ms/step - loss: 0.0030
                       - 0s 27ms/step
                       - 0s 25ms/step
1/1 -
                     — 0s 32ms/step
1/1 -
1/1 -
                      - 0s 30ms/step
1/1 -
                      - 0s 28ms/step
                      0s 30ms/step
                       - 0s 32ms/step
1/1 -
                       - 0s 29ms/step
1/1 -
                       - 0s 29ms/step
1/1 -
1/1 ---
                    Os 30ms/step
                       - 0s 28ms/step
1/1 -
                      - 0s 28ms/step
                       - 0s 29ms/step
                       - 0s 32ms/step
1/1 -
1/1 -
                       - 0s 27ms/step
1/1 -
                      - 0s 33ms/step
                       - 0s 35ms/step
1/1 -
                      - 0s 35ms/step
1/1 -
                       - 0s 33ms/step
     0s 30ms/step
1/1 -
          Os 38ms/step - loss: 0.0036
1/1 -
1/1 ——— 0s 30ms/step - loss: 0.0034
Epoch: 010/149 | Loss: 0.0034 | Episodes: 54 | Win count: 0 | Win rate: 0.000 | time
: 66.1 seconds
```

1/1	0s	33ms/step			
1/1					
1/1					
1/1	95	31ms/sten			
1/1					
1/1	05	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	31ms/step			
1/1	05	32ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	30ms/step			
1/1				_	
1/1	0s	30ms/step	-	loss:	0.0022
1/1			-	loss:	0.0022
1/1					
1/1					
1/1					
1/1					
1/1	0s	25ms/step			
1/1	0s	32ms/step			
1/1	0s	32ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	34ms/step			
1/1	0s	31ms/step			
1/1	0s	31ms/step			
1/1	0s	28ms/step			
1/1					
1/1					
1/1					
1/1	0s	34ms/step	-	loss:	9.9292e-04
1/1	0s	35ms/step	-	loss:	9.3118e-04
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	33ms/step			
1/1	0s	32ms/step			
1/1	0s	27ms/step			
1/1	0s	36ms/step			
1/1	0s	25ms/step			
1/1	0s	23ms/step			

```
1/1 -
                    Os 28ms/step
                      - 0s 26ms/step
1/1 -
                      0s 35ms/step
1/1 -
                       - 0s 36ms/step
                       0s 29ms/step
1/1 -
                      - 0s 30ms/step
1/1 -
1/1 -
                      - 0s 31ms/step
                      - 0s 35ms/step
                      - 0s 38ms/step - loss: 0.0018
                      – 0s 30ms/step - loss: 0.0019
1/1 -
                      - 0s 34ms/step
1/1 -
1/1 -----
                      - 0s 32ms/step
                      - 0s 31ms/step
1/1 -
                      - 0s 33ms/step
1/1 -
1/1 -
                      0s 33ms/step
                      - 0s 38ms/step
1/1 -
1/1 -
                      - 0s 26ms/step
                      - 0s 34ms/step
1/1 ---
                      - 0s 31ms/step
1/1 -
1/1 -
                      - 0s 26ms/step
                      - 0s 31ms/step
                      - 0s 30ms/step
1/1 -
1/1 -----
                      - 0s 37ms/step
                      - 0s 36ms/step
1/1 -
                      - 0s 34ms/step
1/1 -
                 Os 49ms/step
                      - 0s 41ms/step
                      - 0s 29ms/step
1/1 -
                      - 0s 26ms/step
1/1 -
1/1 -----
           Os 35ms/step
                      - 0s 37ms/step - loss: 0.0026
1/1 -
                      — 0s 32ms/step - loss: 0.0024
                      - 0s 31ms/step
                       - 0s 30ms/step
1/1 -
                     — 0s 29ms/step
1/1 -
1/1 -
                      - 0s 26ms/step
1/1 -
                      - 0s 27ms/step
                      - 0s 24ms/step
                      - 0s 32ms/step
1/1 -
                      - 0s 37ms/step
1/1 -
                      - 0s 34ms/step
1/1 -
1/1 ---
                    — 0s 29ms/step
                      - 0s 30ms/step
1/1 -
                      - 0s 26ms/step
                      - 0s 28ms/step
                      - 0s 28ms/step
1/1 -
1/1 -
                      - 0s 23ms/step
1/1 -
                      - 0s 36ms/step
                      - 0s 41ms/step
1/1 -
                      - 0s 25ms/step
1/1 -
                      - 0s 26ms/step
     0s 39ms/step
1/1 -
         Os 37ms/step - loss: 0.0038
1/1 -
1/1 ——— 0s 30ms/step - loss: 0.0035
Epoch: 011/149 | Loss: 0.0035 | Episodes: 59 | Win count: 0 | Win rate: 0.000 | time
: 73.4 seconds
```

4.44	•	24 / 1			
1/1	05	31ms/step			
1/1					
1/1	0s	27ms/step			
1/1					
1/1	0s	29ms/step			
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1	05	331113/Step			
1/1	0s	32ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	28ms/step			
1/1					
1/1	95	32ms/sten			
1/1					
1/1	05	25ms/stcp			
1/1				1000	0 0020
1/1			-	Toss:	0.0029
1/1					
1/1					
1/1	0s	32ms/step			
1/1					
1/1	0s	29ms/step			
1/1	0s	28ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	341115/Step			
1/1					
1/1					
1/1	0s	31ms/step			
1/1					
1/1					
1/1					
1/1	0s	28ms/step			
1/1	0s	31ms/step			
1/1			_	loss:	0.0035
1/1	05	37ms/sten	_	loss:	0.0034
1/1					
1/1					
1/1					
1/1					
1/1	0s	32ms/step			
1/1					
1/1	0s	27ms/step			
1/1	0s	26ms/step			
1/1	0s	30ms/step			
1/1	0s	34ms/step			
1/1					
1/1					
-, <b>-</b>	-	, эсер			

```
1/1 -
                 Os 32ms/step
                     - 0s 30ms/step
                     - 0s 31ms/step
1/1 ---
1/1 -
                     - 0s 32ms/step
                     - 0s 36ms/step
1/1 -
                   — 0s 26ms/step
1/1 -----
1/1 -
                     - 0s 28ms/step
                    - 0s 27ms/step
             Os 32ms/step - loss: 0.0028
                ---- 0s 37ms/step - loss: 0.0027
1/1 -
Epoch: 012/149 | Loss: 0.0027 | Episodes: 62 | Win count: 0 | Win rate: 0.000 | time
: 77.7 seconds
                    — 0s 33ms/step
1/1 -----
     0s 35ms/step
1/1 -
                    - 0s 30ms/step
1/1 ----
                     0s 28ms/step
1/1 -
1/1 -----
                     - 0s 26ms/step
1/1 -----
                   — 0s 26ms/step
                     - 0s 39ms/step
1/1 -
1/1 -
                     - 0s 29ms/step
                     - 0s 33ms/step
1/1 -
                     - 0s 29ms/step
1/1 -----
                   Os 25ms/step
                     - 0s 27ms/step
1/1 -
                     - 0s 26ms/step
1/1 -
           0s 29ms/step
                     - 0s 25ms/step
                     - 0s 33ms/step
1/1 -
1/1 -----
                     - 0s 25ms/step
1/1 Os 23ms/step
                     - 0s 28ms/step
1/1 -
                    — 0s 37ms/step
                     - 0s 38ms/step - loss: 0.0028
                     - 0s 38ms/step - loss: 0.0029
1/1 -
1/1 -----
                   —— 0s 31ms/step
1/1 -
                     - 0s 34ms/step
1/1 -
                    - 0s 34ms/step
                     0s 28ms/step
                     - 0s 28ms/step
1/1 -
                     - 0s 27ms/step
1/1 -
                     - 0s 28ms/step
1/1 ----
1/1 -----
                  —— 0s 24ms/step
                     - 0s 28ms/step
1/1 -
                    — 0s 25ms/step
                     - 0s 33ms/step
                     - 0s 28ms/step
1/1 -
1/1 -
                   — 0s 26ms/step
1/1 -
                     - 0s 29ms/step
                     - 0s 25ms/step
1/1 -
                     - 0s 27ms/step
1/1 -
                     - 0s 27ms/step
1/1 -
                     - 0s 34ms/step
                     - 0s 37ms/step
1/1 -
            Os 24ms/step
1/1 -
       Os 31ms/step - loss: 0.0026
1/1 -
            0s 32ms/step - loss: 0.0028
```

1/1	0s	42ms/step			
1/1					
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	29ms/step			
1/1					
1/1	0s	27ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	29ms/step			
1/1	05	29ms/step			
1/1			_	1000	0 0025
1/1					
1/1				1033.	0.0023
1/1					
1/1					
1/1	0s	32ms/step			
1/1					
1/1	0s	34ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1					
1/1					
1/1					
1/1	0s	35ms/step			
1/1					
1/1					
1/1					
1/1	0s	28ms/step			
1/1 ———————————————————————————————————				1	0 0020
1/1					
1/1			-	1088:	0.0035
1/1					
1/1					
1/1					
1/1					
1/1	05	35ms/step			
1/1	95	35ms/sten			
1/1					
1/1					
1/1	0s	27ms/step			
1/1					
1/1					

```
1/1 -
                 Os 24ms/step
                     - 0s 28ms/step
                     - 0s 24ms/step
1/1 ---
1/1 -
                     - 0s 31ms/step
                     - 0s 25ms/step
1/1 -
                    - 0s 42ms/step
1/1 -----
                     - 0s 32ms/step
1/1 -
                     - 0s 28ms/step
             Os 30ms/step - loss: 0.0030
                ---- 0s 37ms/step - loss: 0.0031
1/1 -
Epoch: 013/149 | Loss: 0.0031 | Episodes: 67 | Win count: 0 | Win rate: 0.000 | time
: 84.7 seconds
                    - 0s 30ms/step
1/1 -----
     0s 29ms/step
1/1 -
                     - 0s 35ms/step
1/1 ---
                     0s 31ms/step
1/1 -
1/1 -----
                     - 0s 30ms/step
1/1 -----
                   — 0s 32ms/step
                     - 0s 31ms/step
1/1 -
1/1 -
                     - 0s 33ms/step
                     - 0s 31ms/step
1/1 -
                     - 0s 25ms/step
1/1 -----
                   —— 0s 30ms/step
                     - 0s 29ms/step
1/1 -
                     - 0s 31ms/step
1/1 -
           0s 33ms/step
                     - 0s 34ms/step
                     - 0s 38ms/step
1/1 -
1/1 -----
                     - 0s 39ms/step
1/1 -----
                   —— 0s 32ms/step
                     - 0s 33ms/step
1/1 -
                     — 0s 30ms/step
                     - 0s 31ms/step - loss: 0.0034
                     - 0s 31ms/step - loss: 0.0032
1/1 -
1/1 -----
                   Os 25ms/step
1/1 -
                     - 0s 30ms/step
1/1 -
                     - 0s 28ms/step
                     - 0s 25ms/step
                     - 0s 32ms/step
1/1 -
                     - 0s 26ms/step
1/1 -
                     - 0s 28ms/step
1/1 ----
1/1 -----
                   Os 29ms/step
                     - 0s 26ms/step
1/1 -
                     — 0s 34ms/step
                     - 0s 28ms/step
                     - 0s 31ms/step
1/1 -
1/1 -
                     - 0s 26ms/step
1/1 -
                     - 0s 28ms/step
                     - 0s 39ms/step
1/1 -
                     - 0s 37ms/step
1/1 -
                     - 0s 29ms/step
1/1 -
                     - 0s 35ms/step
                     - 0s 22ms/step
1/1 -
             Os 25ms/step
1/1 -
       Os 32ms/step - loss: 0.0016
1/1 -
            0s 35ms/step - loss: 0.0016
```

```
1/1 -
                 ____ 0s 27ms/step
                     - 0s 25ms/step
1/1 -
                     - 0s 23ms/step
1/1 -
                      - 0s 28ms/step
                      - 0s 34ms/step
1/1 -
                     - 0s 32ms/step
1/1 -
1/1 -
                     - 0s 30ms/step
                      - 0s 40ms/step
                      0s 26ms/step
1/1 -
                     - 0s 31ms/step
                      - 0s 33ms/step
1/1 -
                      - 0s 35ms/step
1/1 -----
1/1 -
                     - 0s 28ms/step
                     - 0s 30ms/step
1/1 -
1/1 -
                     0s 29ms/step
                      - 0s 27ms/step
1/1 -
1/1 -
                     - 0s 27ms/step
                     - 0s 42ms/step
1/1 ---
                     - 0s 34ms/step
1/1 -
                     - 0s 30ms/step
                    Os 32ms/step - loss: 0.0024
1/1 -
                     - 0s 29ms/step - loss: 0.0023
1/1 -----
                   — 0s 28ms/step
                     - 0s 31ms/step
1/1 -
                     - 0s 30ms/step
1/1 -
                0s 26ms/step
                     - 0s 25ms/step
                      - 0s 30ms/step
1/1 -
1/1 -
                     - 0s 32ms/step
1/1 -----
                   —— 0s 27ms/step
                     - 0s 35ms/step
1/1 -
                     — 0s 28ms/step
                      - 0s 25ms/step
                      - 0s 26ms/step
1/1 -
                    — 0s 27ms/step
1/1 -
1/1 -
                     - 0s 38ms/step
1/1 -
                     - 0s 29ms/step
                     - 0s 28ms/step
                     - 0s 30ms/step
1/1 -
                      - 0s 28ms/step
1/1 -
                     - 0s 31ms/step
1/1 Os 38ms/step
                     - 0s 34ms/step - loss: 0.0020
1/1 -
Epoch: 014/149 | Loss: 0.0018 | Episodes: 71 | Win count: 0 | Win rate: 0.000 | time
: 90.5 seconds
Epoch: 015/149 | Loss: 0.0018 | Episodes: 71 | Win count: 1 | Win rate: 0.062 | time
: 90.5 seconds
1/1 -
                     - 0s 30ms/step
                 ——— 0s 30ms/step
1/1 -
                     - 0s 29ms/step
1/1
                      - 0s 27ms/step
                      - 0s 34ms/step
1/1 -
1/1 -
                   --- 0s 46ms/step
                     - 0s 31ms/step
1/1 -
            0s 36ms/step
```

1/1	0s	32ms/step			
1/1	0s	25ms/step			
1/1	0s	29ms/step			
1/1	<b>0</b> s	35ms/sten			
1/1	<b>0</b> S	28ms/step			
1/1	0s	35ms/step			
1/1	0s	35ms/step	-	loss:	0.0029
1/1	0s	32ms/step			
1/1	ac.	2/ms/step			
1/1	05	2/11/5/5tep			
1/1	0s	30ms/step			
1/1	0s	29ms/step			
1/1	0s	25ms/step			
1/1	0s	33ms/step			
1/1	05	331113/Step			
1/1	05	40ms/step		-	
1/1	 <b>0</b> S	38ms/step	-	loss:	0.0028
			-	loss:	0.0025
1/1	0s	27ms/step			
1/1	0s	25ms/step			
1/1	0s	25ms/step			
1/1	0s	32ms/step			
1/1	05	331113/Step			
1/1	ØS	34ms/step			
1/1	0s	24ms/step			
		•			

```
1/1 -
               Os 35ms/step - loss: 0.0023
                    - 0s 33ms/step - loss: 0.0023
                    - 0s 25ms/step
1/1 -
1/1 -
                    - 0s 29ms/step
                    - 0s 27ms/step
1/1 -
                    - 0s 30ms/step
1/1 ----
1/1 -
                    - 0s 30ms/step
                    - 0s 27ms/step
                    - 0s 29ms/step
1/1 -
                    - 0s 39ms/step
                    - 0s 32ms/step
1/1 -
1/1 -----
                    - 0s 30ms/step
                    - 0s 35ms/step
1/1 -
                    - 0s 36ms/step
1/1 -
                    - 0s 25ms/step
1/1 -
1/1 -
                    - 0s 29ms/step
1/1 -
                    - 0s 26ms/step
                   Os 28ms/step
1/1 ---
                    - 0s 29ms/step
1/1 -
                    - 0s 31ms/step
                  --- 0s 24ms/step
                    - 0s 26ms/step
1/1 -
1/1 ——— 0s 31ms/step - loss: 0.0031
1/1 — 0s 33ms/step - loss: 0.0030
Epoch: 016/149 | Loss: 0.0030 | Episodes: 75 | Win count: 1 | Win rate: 0.059 | time
: 96.4 seconds
1/1 _____
                    - 0s 26ms/step
                    - 0s 38ms/step
1/1 -----
                    - 0s 36ms/step
1/1 Os 31ms/step
                    - 0s 36ms/step
1/1 -
                   — 0s 30ms/step
                    - 0s 28ms/step
                    - 0s 27ms/step
1/1 -
               Os 32ms/step
1/1 -----
1/1 -
                    - 0s 28ms/step
1/1 -
                   — 0s 28ms/step
1/1 0s 23ms/step
                    - 0s 29ms/step
1/1 -
                    - 0s 38ms/step
1/1 -
                    - 0s 34ms/step
1/1 -
1/1 0s 29ms/step
                    - 0s 38ms/step
1/1 -
                    — 0s 33ms/step
                    - 0s 34ms/step
                    - 0s 37ms/step
1/1 -
1/1 -
                  --- 0s 35ms/step - loss: 0.0019
1/1 -
                    - 0s 35ms/step - loss: 0.0019
                    - 0s 25ms/step
1/1 -
                Os 30ms/step
1/1 -
                    - 0s 34ms/step
    Os 35ms/step
1/1 -
                    - 0s 28ms/step
1/1 -
1/1 -
            ——— 0s 32ms/step
                    - 0s 29ms/step
1/1 -
           0s 30ms/step
```

4.44	_				
1/1					
1/1					
1/1	0s	30ms/step			
1/1					
1/1	0s	29ms/step			
1/1					
1/1	0s	36ms/step			
1/1	0s	26ms/step			
1/1					
1/1					
1/1					
1/1					
1/1				1000	0 0020
1/1	05	53ms/step	_	1055.	0.0020
1/1			-	1055:	0.0020
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	24ms/step			
1/1	0s	27ms/step			
1/1	0s	31ms/step			
1/1					
1/1					
1/1					
1/1	0s	27ms/step			
1/1					
1/1	05	35ms/step			
1/1					
1/1					
1/1					
1/1					
1/1			_	1000	0 0035
1/1					
1/1	05	24ms/step	_	1033.	0.0037
1/1	05	341115/Step			
1/1					
1/1					
1/1					
1/1					
1/1	05	33ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	35ms/step			
1/1	0s	33ms/step			
1/1					
1/1					
1/1	0s	31ms/step			
1/1	0s	28ms/step			
		•			

```
1/1 -
            Os 32ms/step - loss: 0.0024
           Os 28ms/step - loss: 0.0023
Epoch: 017/149 | Loss: 0.0023 | Episodes: 79 | Win count: 1 | Win rate: 0.056 | time
: 102.1 seconds
1/1 -----
                    - 0s 34ms/step
           0s 45ms/step
1/1 -----
1/1 -
                    - 0s 28ms/step
1/1 -
                   — 0s 24ms/step
                    - 0s 28ms/step
1/1 -
                    - 0s 28ms/step
          0s 31ms/step
1/1 -
                  --- 0s 29ms/step
1/1 -----
                   — 0s 26ms/step
1/1 -
                    - 0s 32ms/step
1/1 -
                    - 0s 32ms/step
1/1 -
                    - 0s 35ms/step
1/1 -
1/1 -
                    - 0s 32ms/step
                  --- 0s 27ms/step
1/1 ---
                    - 0s 27ms/step
1/1 -
1/1 -
                    - 0s 29ms/step
                   —— 0s 26ms/step
1/1 -
                    - 0s 28ms/step
1/1 ———— 0s 32ms/step
                    - 0s 30ms/step
1/1 -
                    — 0s 37ms/step - loss: 0.0039
1/1 -
            Os 40ms/step - loss: 0.0036
                    - 0s 27ms/step
                    - 0s 25ms/step
1/1 -
1/1 -----
                    - 0s 29ms/step
1/1 Os 28ms/step
                    - 0s 28ms/step
1/1 -
                    — 0s 25ms/step
                    - 0s 34ms/step
                    - 0s 36ms/step
1/1 -
                  —— 0s 34ms/step
1/1 -
1/1 -
                    - 0s 32ms/step
1/1 -
                    - 0s 38ms/step
1/1 ———— 0s 34ms/step
                    - 0s 30ms/step
1/1 -
                    - 0s 35ms/step
1/1 -
                    - 0s 26ms/step
1/1 -
1/1 Os 28ms/step
                    - 0s 25ms/step
1/1 -
                    — 0s 31ms/step
                    - 0s 29ms/step
                    - 0s 25ms/step
1/1 -
1/1 -
                  --- 0s 32ms/step - loss: 0.0049
1/1 -
                    - 0s 34ms/step - loss: 0.0040
                    - 0s 31ms/step
1/1 -
                Os 25ms/step
1/1 -
                    - 0s 30ms/step
    Os 52ms/step
1/1 -
                    - 0s 36ms/step
1/1 -
               Os 29ms/step
1/1 -
                    - 0s 25ms/step
1/1 -
            0s 29ms/step
```

```
1/1 -
               Os 29ms/step
                    - 0s 26ms/step
                   - 0s 31ms/step
1/1 -
1/1 -
                    - 0s 33ms/step
                    - 0s 31ms/step
1/1 -
                   - 0s 29ms/step
1/1 ----
1/1 -
                    - 0s 29ms/step
1/1 -
                    - 0s 32ms/step
                    - 0s 30ms/step
1/1 -
                    - 0s 29ms/step
          0s 30ms/step
1/1 -
1/1 Os 42ms/step
                Os 29ms/step - loss: 0.0038
1/1 -
Epoch: 018/149 | Loss: 0.0036 | Episodes: 82 | Win count: 1 | Win rate: 0.053 | time
: 106.4 seconds
1/1 -----
                   - 0s 32ms/step
1/1 -----
          0s 27ms/step
                    - 0s 27ms/step
1/1 -
1/1 -
                   - 0s 32ms/step
                  — 0s 26ms/step
1/1 -
                    - 0s 24ms/step
1/1 ______ 0s 30ms/step
                    - 0s 29ms/step
1/1 -
                   - 0s 27ms/step
1/1 -
           0s 25ms/step
                   - 0s 29ms/step
                    - 0s 29ms/step
1/1 -
1/1 -----
                    - 0s 27ms/step
1/1 Os 25ms/step
                    - 0s 26ms/step
1/1 -
                   — 0s 31ms/step
                    - 0s 27ms/step
                    - 0s 31ms/step
1/1 -
                  Os 39ms/step
1/1 -
1/1 -
                    - 0s 40ms/step
1/1 -
                  —— 0s 39ms/step - loss: 0.0021
           0s 31ms/step - loss: 0.0025
                    - 0s 30ms/step
1/1 -
                    - 0s 30ms/step
1/1 -
                    - 0s 31ms/step
1/1 -
1/1 -----
           0s 29ms/step
                    - 0s 27ms/step
1/1 -
                   — 0s 27ms/step
                    - 0s 28ms/step
                    - 0s 32ms/step
1/1 -
1/1 -
                  — 0s 26ms/step
1/1 -
                    - 0s 32ms/step
                    - 0s 29ms/step
1/1 -
                   - 0s 34ms/step
                    - 0s 33ms/step
1/1 -
1/1 -
                    - 0s 30ms/step
                    - 0s 28ms/step
1/1 -
1/1 -
              Os 32ms/step
                    - 0s 36ms/step
1/1 -
           Os 38ms/step
```

```
1/1 -
                Os 26ms/step
                     - 0s 27ms/step
                    — 0s 31ms/step - loss: 0.0022
1/1 -
1/1 -
                     - 0s 28ms/step - loss: 0.0023
                     - 0s 35ms/step
1/1 -
                    — 0s 31ms/step
1/1 ----
1/1 -
                     - 0s 28ms/step
                     - 0s 28ms/step
                     - 0s 31ms/step
1/1 -
                     0s 31ms/step
                     - 0s 29ms/step
1/1 -
1/1 -----
                     - 0s 33ms/step
                     - 0s 34ms/step
1/1 -
                     - 0s 35ms/step
1/1 -
1/1 -
                     - 0s 38ms/step
                     - 0s 41ms/step
1/1 -
1/1 -
                     - 0s 33ms/step
                    — 0s 33ms/step
1/1 ---
                     - 0s 31ms/step
1/1 -
1/1 -
                     - 0s 35ms/step
                     - 0s 28ms/step
1/1 -
                     - 0s 30ms/step
1/1 -----
                   —— 0s 29ms/step
                     - 0s 29ms/step
1/1 -
                     — 0s 27ms/step - loss: 0.0036
1/1 -
                Os 50ms/step - loss: 0.0038
                     - 0s 32ms/step
                     - 0s 34ms/step
1/1 -
1/1 -----
                     - 0s 29ms/step
1/1 0s 29ms/step
                     - 0s 31ms/step
1/1 -
                     — 0s 31ms/step
                     - 0s 29ms/step
                     - 0s 40ms/step
1/1 -
                   — 0s 43ms/step
1/1 -
1/1 -
                     - 0s 33ms/step
1/1 -
                     - 0s 30ms/step
                     - 0s 27ms/step
                     - 0s 26ms/step
1/1 -
                     - 0s 28ms/step
1/1 -
                     - 0s 39ms/step
1/1 -
1/1 0s 26ms/step
                     - 0s 29ms/step
1/1 -
                     — 0s 25ms/step
                     - 0s 31ms/step
1/1 -
                     - 0s 25ms/step
1/1 -
1/1 -
               ---- 0s 29ms/step - loss: 0.0027
             0s 34ms/step - loss: 0.0028
Epoch: 019/149 | Loss: 0.0028 | Episodes: 86 | Win count: 1 | Win rate: 0.050 | time
: 112.2 seconds
1/1 -
                     - 0s 27ms/step
1/1 — 0s 27ms/step
1/1 ---
                     - 0s 30ms/step
1/1 -----
                 Os 26ms/step
                     - 0s 29ms/step
1/1 -
            0s 37ms/step
```

1/1	0s	32ms/step			
1/1					
1/1					
1/1	0s	27ms/step			
1/1					
1/1	0s	34ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1	0s	30ms/step			
1/1	0s	31ms/step			
1/1					
1/1			-	loss:	0.0030
1/1					
1/1					
1/1	0s	35ms/step			
1/1					
1/1	0s	45ms/step			
1/1	0s	24ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	27ms/step			
1/1	0s	29ms/step			
1/1	0s	34ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1				,	0 0007
1/1	05	32ms/step	-	1055:	0.0037
1/1 ———————————————————————————————————	05	31ms/step	-	1055:	0.0030
1/1	05	35ms/step			
1/1					
1/1					
1/1					
1/1	03	24m3/3cep			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1	0s	29ms/step			
1/1	0s	31ms/step			
1/1	0s	30ms/step			
1/1	0s	32ms/step			
		•			

```
1/1 -
             Os 33ms/step
              ——— 0s 31ms/step
                Os 33ms/step - loss: 0.0023
1/1 ---
1/1 -
                  - 0s 30ms/step - loss: 0.0022
                  - 0s 38ms/step
1/1 -
1/1 0s 29ms/step
                  - 0s 28ms/step
1/1 -
                  - 0s 24ms/step
                  - 0s 28ms/step
1/1 -
                  - 0s 27ms/step
    0s 28ms/step
1/1 -
1/1 Os 26ms/step
                Os 35ms/step
1/1 -
                  - 0s 33ms/step
1/1 -
                  -- 0s 32ms/step
1/1 -
                  - 0s 35ms/step
1/1 -
1/1 -
                  - 0s 33ms/step
1/1 -----
          Os 27ms/step
                  - 0s 34ms/step
1/1 -
1/1 -
                  -- 0s 25ms/step
               Os 29ms/step
1/1 -
                  - 0s 29ms/step
1/1 ———— 0s 29ms/step
         0s 29ms/step
1/1 -
               Os 31ms/step - loss: 0.0022
1/1 -
1/1 ---- 0s 33ms/step - loss: 0.0024
Epoch: 020/149 | Loss: 0.0024 | Episodes: 90 | Win count: 1 | Win rate: 0.048 | time
: 117.8 seconds
1/1 -----
                 — 0s 30ms/step
1/1 ———— 0s 26ms/step
                  - 0s 27ms/step
1/1 -
                ---- 0s 29ms/step
                  - 0s 37ms/step
                  - 0s 33ms/step
1/1 -
1/1 ______ 0s 30ms/step
1/1 -
                 — 0s 29ms/step
1/1 -
                —— 0s 31ms/step
1/1 ...... 0s 45ms/step
                  — 0s 36ms/step
1/1 -
                  - 0s 28ms/step
1/1 -
      0s 26ms/step
1/1 ----
1/1 Os 24ms/step
                  - 0s 27ms/step
1/1 -
              Os 29ms/step
                  - 0s 30ms/step
                  - 0s 24ms/step
1/1 -
      0s 30ms/step
1/1 ---
1/1 -
                  - 0s 32ms/step
                  — 0s 33ms/step - loss: 0.0020
1/1 -
1/1 ——— 0s 45ms/step - loss: 0.0022
                  - 0s 30ms/step
1/1 -
1/1 — 0s 25ms/step
              Os 27ms/step
1/1 -
      0s 30ms/step
1/1 -
      Os 24ms/step
1/1 -
1/1 ---- 0s 30ms/step
```

1/1	0s	35ms/step
1/1		
1/1		
1/1		
1/1	0s	29ms/step
1/1		
1/1	0s	26ms/step
1/1		
1/1		
1/1		
1/1		
1/1		
1/1	0s	28ms/step
1/1	0s	27ms/step
1/1	0s	31ms/step - loss: 0.0020
1/1	0s	29ms/step - loss: 0.0022
1/1		
1/1		
1/1		
1/1		
1/1	0s	29ms/step
1/1		
1/1	0s	39ms/step
1/1		
1/1		
1/1		
1/1		
1/1		
1/1		
1/1	0s	30ms/step
1/1	0s	36ms/step
1/1		
1/1		
1/1		
1/1		
1/1		
1/1	0s	37ms/step - loss: 0.0037
		35ms/step - loss: 0.0038
1/1	0s	29ms/step
1/1		
1/1		
1/1		
1/1		
1/1		
1/1	05	26ms/step
1/1 ———————————————————————————————————		
1/1		
1/1		
1/1		
1/1		
1/1 ———————————————————————————————————	US C-	33mS/STep
1/1	US C-	soms/step
1/1		
1/1	ØS	51ms/step

```
1/1 -
                 Os 37ms/step
                     - 0s 33ms/step
                     — 0s 34ms/step - loss: 0.0041
1/1 -
1/1 -
                      - 0s 28ms/step - loss: 0.0037
                      - 0s 29ms/step
1/1 -
                     - 0s 30ms/step
1/1 ----
1/1 -
                      - 0s 30ms/step
1/1 -
                      - 0s 35ms/step
                      - 0s 30ms/step
1/1 -
                      0s 30ms/step
                      - 0s 29ms/step
1/1 -
1/1 -----
                      - 0s 29ms/step
                      - 0s 35ms/step
1/1 -
                      - 0s 31ms/step
1/1 -
1/1 -
                      0s 34ms/step
                      - 0s 41ms/step
1/1 -
                      - 0s 39ms/step
1/1 -
                    — 0s 30ms/step
1/1 ---
                      - 0s 29ms/step
1/1 -
1/1 -
                      - 0s 28ms/step
                      - 0s 28ms/step
1/1 -
                      - 0s 34ms/step
1/1 -----
                    — 0s 27ms/step
                      - 0s 36ms/step
1/1 -
                     — 0s 35ms/step - loss: 0.0031
1/1 -
                 Os 33ms/step - loss: 0.0029
1/1 -
                     - 0s 26ms/step
                      - 0s 29ms/step
1/1 -
1/1 -----
                      - 0s 25ms/step
1/1 -----
                   —— 0s 31ms/step
                      - 0s 30ms/step
1/1 -
                     — 0s 42ms/step
                      - 0s 25ms/step
                      - 0s 36ms/step
1/1 -
                    — 0s 33ms/step
1/1 -
1/1 -
                      - 0s 32ms/step
1/1 -
                     - 0s 28ms/step
                      - 0s 26ms/step
                      - 0s 25ms/step
1/1 -
                      - 0s 34ms/step
1/1 -
                      - 0s 29ms/step
1/1 -
1/1 -----
                   —— 0s 31ms/step
                      - 0s 35ms/step
1/1 -
                     — 0s 29ms/step
                      - 0s 27ms/step
1/1 -
                      - 0s 28ms/step
1/1 -
1/1 -
                 ---- 0s 38ms/step - loss: 0.0041
              0s 32ms/step - loss: 0.0037
Epoch: 021/149 | Loss: 0.0037 | Episodes: 96 | Win count: 1 | Win rate: 0.045 | time
: 126.6 seconds
1/1 -
                      - 0s 32ms/step
1/1 — 0s 41ms/step
                      - 0s 29ms/step
1/1 -
1/1 -----
                  ——— 0s 40ms/step
                      - 0s 34ms/step
1/1 -
             0s 29ms/step
```

1/1	0s	25ms/step				
1/1	0s	27ms/step				
1/1						
1/1	95	26ms/step				
1/1	03	20ms/step				
1/1	05	33ms/step				
1/1	0S	3/ms/step				
1/1						
1/1	0s	41ms/step				
1/1	0s	35ms/step				
1/1	0s	30ms/step				
1/1						
1/1	as	34ms/sten				
1/1	05	14ms/step				
1/1	05	441113/3CEP				
				-		
1/1	0s	39ms/step	-	loss:	0.0023	
1/1	0s	36ms/step	-	loss:	0.0021	
1/1	0s	33ms/step				
1/1	0s	28ms/step				
1/1	0s	29ms/step				
1/1						
1/1	95	30ms/step				
1/1	03	20ms/step				
1/1	05	201115/Step				
1/1	0s	30ms/step				
1/1	0s	29ms/step				
1/1						
1/1	0s	36ms/step				
1/1	0s	37ms/step				
1/1	0s	32ms/step				
1/1	0s	33ms/step				
1/1						
1/1						
1/1	03	22ms/step				
1/1	05	321113/3tep				
1/1						
1/1	0s	28ms/step				
1/1	0s	30ms/step	-	loss:	0.0027	
1/1			-	loss:	0.0031	
1/1						
1/1	0s	23ms/step				
1/1	0s	31ms/step				
1/1	95	29ms/sten				
1/1						
1/1	03	20113/3tep				
1/1	05	45ms/step				
1/1	05	29ms/step				
1/1	0s	27ms/step				
1/1	0s	35ms/step				
1/1	0s	32ms/step				
1/1	0s	42ms/step				
1/1	0s	31ms/step				
1/1						
1/1	95	38ms/sten				
1/1	Oc.	38mc/stan				
1/1	05	27mc/c+a-				
1/1	05	20m=/step				
1/1	05	30ms/step				
1/1	ØS	34ms/step				

```
1/1 -
           Os 49ms/step
             Os 33ms/step
              Os 30ms/step - loss: 0.0034
1/1 ---
1/1 -
                 - 0s 28ms/step - loss: 0.0034
                 - 0s 27ms/step
1/1 -
1/1 Os 31ms/step
                 — 0s 30ms/step
1/1 -
                — 0s 30ms/step
               Os 31ms/step
                 - 0s 31ms/step
1/1 -
    0s 29ms/step
1/1 -
1/1 Os 30ms/step
              Os 33ms/step
1/1 -
    0s 29ms/step
1/1 -
                — 0s 29ms/step
1/1 -
                 - 0s 27ms/step
1/1 -
     0s 31ms/step
1/1 -
1/1 -----
          Os 30ms/step
                 - 0s 30ms/step
1/1 -
1/1 -
               --- 0s 27ms/step
    0s 29ms/step
1/1 -
                 - 0s 29ms/step
1/1 ———— 0s 32ms/step
        0s 30ms/step
1/1 -
             Os 33ms/step - loss: 0.0012
1/1 -
1/1 ---- 0s 43ms/step - loss: 0.0012
Epoch: 022/149 | Loss: 0.0012 | Episodes: 100 | Win count: 1 | Win rate: 0.043 | tim
e: 132.6 seconds
                — 0s 32ms/step
1/1 -----
1/1 ——— 0s 32ms/step
                 - 0s 40ms/step
1/1 -
              ____ 0s 36ms/step
                 - 0s 32ms/step
                 - 0s 35ms/step
1/1 -
1/1 ———— 0s 28ms/step
1/1 -
                — 0s 25ms/step
1/1 -
               —— 0s 25ms/step
1/1 ...... 0s 38ms/step
                 - 0s 24ms/step
1/1 -
                 - 0s 26ms/step
1/1 -
     0s 28ms/step
1/1 -----
1/1 Os 24ms/step
                 - 0s 27ms/step
1/1 -
             Os 30ms/step
                 - 0s 30ms/step
                 - 0s 26ms/step
1/1 -
      0s 29ms/step
1/1 ---
1/1 -
                — 0s 32ms/step
                 — 0s 35ms/step - loss: 0.0026
1/1 -
1/1 ——— 0s 40ms/step - loss: 0.0024
                 - 0s 33ms/step
1/1 -
1/1 — 0s 28ms/step
       Os 30ms/step
1/1 -
     0s 28ms/step
1/1 -
     0s 25ms/step
1/1 -
1/1 0s 25ms/step
```

```
1/1 -
                  Os 40ms/step
                      - 0s 35ms/step
                      - 0s 29ms/step
1/1 -
1/1 -
                      - 0s 30ms/step
                      - 0s 32ms/step
1/1 -
                      - 0s 32ms/step
1/1 ----
1/1 -
                      - 0s 28ms/step
                      - 0s 39ms/step
                      - 0s 32ms/step
1/1 -
                      - 0s 25ms/step
                      - 0s 28ms/step
1/1 -
1/1 -----
                      - 0s 40ms/step
                      - 0s 44ms/step
1/1 -
                      - 0s 32ms/step
1/1 -
                      – 0s 39ms/step - loss: 0.0016
1/1 -
                      - 0s 34ms/step - loss: 0.0016
1/1 -
1/1 -
                      - 0s 24ms/step
1/1 ----
                    — 0s 26ms/step
                      - 0s 29ms/step
1/1 -
1/1 -
                      - 0s 34ms/step
                      - 0s 41ms/step
1/1 -
                      - 0s 29ms/step
1/1 -----
                    —— 0s 26ms/step
                      - 0s 29ms/step
1/1 -
                      - 0s 29ms/step
1/1 -
                 Os 36ms/step
                      - 0s 26ms/step
                      - 0s 29ms/step
1/1 -
1/1 -----
                      - 0s 31ms/step
1/1 -----
                    —— 0s 32ms/step
                      - 0s 34ms/step
1/1 -
                      — 0s 28ms/step
                      - 0s 27ms/step
                      - 0s 25ms/step
1/1 -
1/1 -----
                 Os 31ms/step
1/1 -----
                  Os 24ms/step
1/1 — Os 30ms/step - loss: 0.0029
1/1 — Os 30ms/step - loss: 0.0027
Epoch: 023/149 | Loss: 0.0027 | Episodes: 103 | Win count: 1 | Win rate: 0.042 | tim
e: 136.9 seconds
                    — 0s 30ms/step
1/1 -----
1/1 0s 23ms/step
                      - 0s 27ms/step
1/1 -
                     — 0s 30ms/step
                      - 0s 36ms/step
                      - 0s 30ms/step
1/1 -
1/1 -
                    — 0s 31ms/step
1/1 -
                      - 0s 31ms/step
                      - 0s 25ms/step
1/1 -
                    --- 0s 24ms/step
1/1 -
                      - 0s 30ms/step
1/1 -
                      - 0s 34ms/step
                      - 0s 30ms/step
1/1 -
                 Os 31ms/step
1/1 -
                      - 0s 30ms/step
1/1 -
             Os 24ms/step
```

	_					
1/1	0s	26ms/step				
1/1	0s	28ms/step				
1/1	0s	24ms/step				
1/1	۵c	25ms/stan				
1/1				1	0.0000	
1/1	05	28ms/step	-	1055:	0.0020	
1/1			-	loss:	0.0019	
1/1						
1/1	0s	27ms/step				
1/1	05	30ms/sten				
1/1	as	30ms/sten				
1/1	05	24ms/step				
1/1						
1/1	0s	28ms/step				
1/1						
1/1	0s	33ms/step				
1/1	0s	30ms/step				
1/1						
1/1	05	20ms/step				
1/1	05	291115/Step				
1/1	0s	30ms/step				
1/1						
1/1						
1/1	0s	31ms/step				
1/1	0s	26ms/step				
1/1						
1/1	05	22ms/step				
1/1	05	321115/Step				
				_		
1/1	0s	37ms/step	-	loss:	0.0021	
1/1	0s	31ms/step	-	loss:	0.0020	
1/1	0s	28ms/step				
1/1	0s	32ms/step				
1/1						
1/1						
1/1						
1/1	05	30ms/step				
1/1	0s	32ms/step				
1/1						
1/1						
1/1	0s	45ms/step				
1/1	0s	33ms/step				
1/1						
1/1						
1/1						
1/1	05	28ms/step				
1/1						
1/1	0s	34ms/step				
1/1						
1/1	0s	31ms/step				
1/1	0s	30ms/step				
1/1						
1/1						
				1	0.0000	
1/1	05	28ms/step	-	TOSS:	0.0029	
1/1			-	loss:	0.0028	
1/1	0s	35ms/step				
1/1	0s	33ms/step				
1/1						
1/1						
1/1						
1/1						
1/1	۷S	∠9ms/step				

```
1/1 -
              Os 29ms/step
                  - 0s 30ms/step
1/1 ---
                  - 0s 34ms/step
1/1 -
                   - 0s 27ms/step
                   - 0s 28ms/step
1/1 -
                 — 0s 35ms/step
1/1 -----
                  - 0s 27ms/step
1/1 -
                  - 0s 28ms/step
                  - 0s 24ms/step
1/1 -
                  - 0s 28ms/step
         0s 27ms/step
1/1 -
1/1 Os 30ms/step
           Os 33ms/step
1/1 -
1/1 ---- 0s 28ms/step
                 —— 0s 37ms/step - loss: 0.0026
1/1 -
    0s 33ms/step - loss: 0.0025
Epoch: 024/149 | Loss: 0.0025 | Episodes: 107 | Win count: 1 | Win rate: 0.040 | tim
e: 142.5 seconds
                 — 0s 28ms/step
1/1 -----
1/1 -
                 —— 0s 29ms/step
              Os 24ms/step
1/1 -
                  - 0s 25ms/step
1/1 ———— 0s 22ms/step
                  - 0s 26ms/step
1/1 -
                  - 0s 31ms/step
1/1 -
1/1 0s 29ms/step
                  - 0s 31ms/step
                   - 0s 24ms/step
1/1 -
1/1 -----
                  - 0s 28ms/step
1/1 0s 29ms/step
                  - 0s 30ms/step
1/1 -
                 — 0s 29ms/step
                   - 0s 26ms/step
                   - 0s 27ms/step
1/1 -
1/1 ———— 0s 26ms/step
1/1 -
                  - 0s 29ms/step
1/1 -
                 --- 0s 30ms/step
1/1 0s 29ms/step
                  — 0s 31ms/step - loss: 0.0013
1/1 -
                   - 0s 28ms/step - loss: 0.0014
1/1 -
               Os 26ms/step
1/1 ----
1/1 0s 29ms/step
                   - 0s 27ms/step
1/1 -
                  — 0s 33ms/step
                   - 0s 33ms/step
                  - 0s 30ms/step
1/1 -
1/1 -
                —— 0s 27ms/step
1/1 -
                  - 0s 31ms/step
                  - 0s 23ms/step
1/1 -
              Os 26ms/step
                  - 0s 26ms/step
1/1 -
    0s 27ms/step
1/1 -
               Os 30ms/step
1/1 -
          Os 27ms/step
1/1 -
      Os 33ms/step
1/1 -
1/1 0s 39ms/step
```

1/1	0s	29ms/step			
1/1					
1/1	0s	26ms/step			
1/1	0s	30ms/step			
1/1	0s	34ms/step	-	loss:	0.0042
1/1	0s	35ms/step	-	loss:	0.0041
1/1					
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1					
1/1	0s	32ms/step			
1/1					
1/1	0s	32ms/step			
1/1					
1/1					
1/1					
1/1	0s	27ms/step			
1/1					
1/1	0s	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1				1	0.0000
1/1 ———————————————————————————————————	05	31ms/step	-	1055:	0.0029
			-	1055:	0.0029
1/1 ———————————————————————————————————	05	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	28ms/step			
1/1					
1/1					
1/1	0s	28ms/step			
1/1					
1/1	0s	24ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1			-	loss:	0.0021
1/1	0s	31ms/step			
1/1					
1/1	0s	32ms/step			
1/1					
1/1	0s	35ms/step			
1/1	ØS	კიms/step			

1/1	0s	26ms/step			
1/1	0s	25ms/step			
1/1	0s	40ms/step			
1/1	0s	30ms/step			
1/1	0s	31ms/step			
1/1	0s	28ms/step			
1/1	0s	27ms/step			
1/1	0s	32ms/step			
1/1	0s	35ms/step			
			_	loss:	0.0023
1/1	05	27ms/step			
1/1	95	29ms/sten			
1/1	05	29ms/step			
1/1	05	29111S/Step			
1/1	05	28ms/step			
				1	0 0011
1/1	05	31ms/step	-	1055:	0.0011
			-	1088:	0.0012
1/1	05	30ms/step			
1/1	05	28ms/step			
1/1	05	2/ms/step			
1/1	0s	30ms/step			

```
1/1 -
            Os 26ms/step
              Os 38ms/step
               Os 34ms/step - loss: 0.0037
1/1 ---
1/1 -
                  - 0s 29ms/step - loss: 0.0036
                 - 0s 35ms/step
1/1 -
1/1 0s 39ms/step
1/1 -
                 - 0s 25ms/step
                 — 0s 30ms/step
                 - 0s 30ms/step
1/1 -
                 — 0s 30ms/step
    0s 30ms/step
1/1 -
1/1 Os 34ms/step
               —— 0s 26ms/step
1/1 -
    0s 25ms/step
1/1 -
                 — 0s 41ms/step
1/1 -
                  - 0s 35ms/step
1/1 -
1/1 -
                 - 0s 32ms/step
1/1 -----
          Os 31ms/step
                 - 0s 28ms/step
1/1 -
1/1 -
                 — 0s 27ms/step
    0s 31ms/step
1/1 -
                 - 0s 25ms/step
1/1 ———— 0s 36ms/step
        Os 31ms/step
1/1 -
             Os 35ms/step - loss: 0.0025
1/1 -
1/1 ---- 0s 30ms/step - loss: 0.0024
Epoch: 025/149 | Loss: 0.0024 | Episodes: 115 | Win count: 1 | Win rate: 0.038 | tim
e: 153.8 seconds
                — 0s 30ms/step
1/1 -----
1/1 ———— 0s 26ms/step
                 - 0s 34ms/step
1/1 -
               —— 0s 30ms/step
                 - 0s 28ms/step
                 - 0s 27ms/step
1/1 -
1/1 os 37ms/step
1/1 -
                — 0s 32ms/step
1/1 -
               ____ 0s 33ms/step
1/1 _____ 0s 26ms/step
                 - 0s 24ms/step
1/1 -
                  - 0s 29ms/step
1/1 -
     0s 27ms/step
1/1 -----
1/1 Os 28ms/step
                 - 0s 40ms/step
1/1 -
              Os 28ms/step
                 - 0s 30ms/step
                 - 0s 30ms/step
1/1 -
      0s 29ms/step
1/1 ---
1/1 -
                — 0s 29ms/step
                 - 0s 44ms/step - loss: 0.0025
1/1 -
1/1 ——— 0s 37ms/step - loss: 0.0023
1/1 -
                 - 0s 36ms/step
1/1 ———— 0s 30ms/step
       Os 36ms/step
1/1 -
     0s 35ms/step
1/1 -
     0s 27ms/step
1/1 -
1/1 0s 25ms/step
```

1/1	<b>0</b> s	30ms/sten			
1/1					
1/1					
1/1	05	26ms/sten			
1/1					
1/1	05	35ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	321115/Step			
1/1	05	2/ms/step			
1/1	05	30ms/step			
1/1				1000.	0 0010
1/1	05	38ms/step	-	1055:	0.0018
			-	1088:	0.0018
1/1					
1/1 ———————————————————————————————————	05	29ms/step			
1/1	05	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	35ms/step			
1/1	0s	23ms/step			
1/1	0s	26ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	30ms/step	-	loss:	0.0018
1/1	0s	40ms/step	-	loss:	0.0016
1/1	0s	34ms/step			
1/1					
1/1					
1/1					
1/1	0s	35ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	26ms/step			
1/1					
1/1	0s	30ms/step			
1/1					
1/1	0s	26ms/step			
1/1	0s	37ms/step			

```
1/1 -
                Os 29ms/step
                    - 0s 25ms/step
                   — 0s 31ms/step - loss: 0.0021
1/1 -
1/1 -
                    - 0s 29ms/step - loss: 0.0023
                    - 0s 29ms/step
1/1 -
                   — 0s 26ms/step
1/1 -----
                    - 0s 24ms/step
1/1 -
                    - 0s 32ms/step
                    - 0s 32ms/step
1/1 -
                    0s 29ms/step
                    - 0s 26ms/step
1/1 -
                    - 0s 32ms/step
1/1 -----
                    - 0s 25ms/step
1/1 -
                    - 0s 26ms/step
1/1 -
                    - 0s 48ms/step
1/1 -
                    - 0s 36ms/step
1/1 -
1/1 -
                    - 0s 29ms/step
                   Os 33ms/step
1/1 ---
                    - 0s 32ms/step
1/1 -
1/1 -
                    - 0s 31ms/step
                    - 0s 40ms/step
1/1 -
                    - 0s 24ms/step
1/1 -----
                  Os 26ms/step
                    - 0s 28ms/step
1/1 -
                    - 0s 29ms/step - loss: 0.0014
1/1 -
           0s 27ms/step - loss: 0.0016
                    - 0s 25ms/step
                    - 0s 26ms/step
1/1 -
1/1 -----
                    - 0s 28ms/step
1/1 Os 23ms/step
                    - 0s 23ms/step
1/1 -
                    — 0s 27ms/step
                    - 0s 30ms/step
                    - 0s 32ms/step
1/1 -
1/1 -----
                  —— 0s 41ms/step
1/1 -
                    - 0s 29ms/step
1/1 -
                    - 0s 25ms/step
1/1 0s 26ms/step
                    - 0s 24ms/step
1/1 -
                    - 0s 25ms/step
1/1 -
                    - 0s 25ms/step
1/1 -
1/1 Os 25ms/step
                    - 0s 30ms/step
1/1 -
                    — 0s 37ms/step
                    - 0s 30ms/step
                    - 0s 34ms/step
1/1 -
             Os 36ms/step - loss: 0.0012
1/1 -
      0s 26ms/step - loss: 0.0011
Epoch: 026/149 | Loss: 0.0011 | Episodes: 121 | Win count: 1 | Win rate: 0.037 | tim
e: 162.4 seconds
1/1 -
                    - 0s 30ms/step
1/1 — 0s 32ms/step
                  —— 0s 30ms/step
1/1 -
1/1 — 0s 33ms/step
                    - 0s 41ms/step
1/1 -
           0s 32ms/step
```

1/1					
1/1					
1/1					
1/1					
1/1	0s	30ms/step			
1/1					
1/1	0s	23ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	33ms/step			
1/1					
1/1	0s	30ms/step	-	loss:	0.0012
1/1	0s	28ms/step	-	loss:	0.0013
1/1					
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1					
1/1	0s	33ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	26ms/step			
1/1	0s	23ms/step			
1/1	0s	34ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1			-	loss:	0.0022
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	29ms/step			
1/1 ———————————————————————————————————					
1/1					
1/1 ———————————————————————————————————					
1/1					
1/1					
1/1 ———————————————————————————————————	US C=	30ms/step			
1/1	US	JUMS/step			
1/1					
1/1	ØS	53ms/step			

1/1	0s	42ms/step			
1/1					
1/1					
1/1			-	loss:	0.0020
1/1					
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1	0s	25ms/step			
1/1					
1/1	0s	28ms/step			
1/1					
1/1	0s	30ms/step			
1/1					
1/1	0s	30ms/step			
1/1	0s	30ms/step			
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1			_	loss:	0.0032
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1			_	loss:	0.0031
1/1					
1/1					
1/1	0s	28ms/step			
1/1	0s	27ms/step			
1/1					
1/1	0s	28ms/step			
1/1					
1/1					
1/1					

1/1	0s	39ms/step			
1/1	0s	32ms/step			
1/1	0s	39ms/step			
1/1	05	30ms/sten			
1/1					
1/1					
1/1					
1/1					
1/1	0s	24ms/step			
1/1					
1/1	0s	22ms/step			
1/1					
1/1					
1/1	0s	30ms/step	_	loss:	0.0030
1/1					
1/1					
1/1					
1/1	05	25ms/stcp			
1/1	05	2/ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	25ms/step			
1/1	0s	27ms/step			
1/1					
1/1	05	36ms/sten			
1/1					
1/1					
1/1					
1/1					
1/1	0s	39ms/step			
1/1	0s	29ms/step			
1/1	0s	39ms/step	-	loss:	0.0026
1/1			-	loss:	0.0023
1/1					
1/1					
1/1	0s	40ms/step			
1/1	0s	35ms/step			
1/1	0s	26ms/step			
1/1	0s	25ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	24ms/step			
1/1	0s	29ms/step			
1/1					
1/1					
1/1	0s	31ms/step			
1/1					
1/1					
1/1					
-, <del>-</del>	55	5±5, 5 ccp			

```
1/1 -----
           Os 32ms/step - loss: 0.0024
          Os 37ms/step - loss: 0.0028
Epoch: 027/149 | Loss: 0.0028 | Episodes: 129 | Win count: 1 | Win rate: 0.036 | tim
e: 173.5 seconds
1/1 -----
                   - 0s 31ms/step
          0s 32ms/step
1/1 -----
1/1 -
                  — 0s 29ms/step
1/1 -
                  Os 30ms/step
                   - 0s 26ms/step
1/1 -
                   - 0s 24ms/step
    0s 33ms/step
1/1 -
1/1 _____
                ____ 0s 27ms/step
                  --- 0s 35ms/step
1/1 -
                   - 0s 33ms/step
1/1 -
                   -- 0s 27ms/step
1/1 -
                    - 0s 27ms/step
1/1 -
1/1 -
                   - 0s 28ms/step
                 —— 0s 31ms/step
1/1 -----
                   - 0s 31ms/step
1/1 -
1/1 -
                   - 0s 28ms/step
                  —— 0s 29ms/step
1/1 -
                   - 0s 37ms/step
1/1 ———— 0s 29ms/step
                  — 0s 24ms/step
1/1 -
                   — 0s 29ms/step - loss: 0.0020
1/1 -
           0s 32ms/step - loss: 0.0022
                   - 0s 25ms/step
                    - 0s 25ms/step
1/1 -
1/1 -----
                   - 0s 26ms/step
1/1 0s 35ms/step
                   - 0s 24ms/step
1/1 -
                  — 0s 25ms/step
                    - 0s 27ms/step
                    - 0s 25ms/step
1/1 -
1/1 ———— 0s 28ms/step
1/1 -
                   - 0s 25ms/step
1/1 -
                  — 0s 24ms/step
1/1 0s 29ms/step
                   - 0s 30ms/step
1/1 -
                    - 0s 25ms/step
1/1 -
                   - 0s 40ms/step
1/1 ----
1/1 Os 41ms/step
                   - 0s 35ms/step
1/1 -
                   — 0s 28ms/step
                    - 0s 25ms/step
                   - 0s 41ms/step
1/1 -
                Os 48ms/step - loss: 0.0037
1/1 -
1/1 -
                   - 0s 36ms/step - loss: 0.0036
                   - 0s 29ms/step
1/1 -
           0s 27ms/step
1/1 -
                   - 0s 28ms/step
    0s 27ms/step
1/1 -
                   - 0s 26ms/step
1/1 -
           Os 29ms/step
1/1 -
                   - 0s 26ms/step
1/1 -
           0s 30ms/step
```

```
1/1 -
                  ____ 0s 31ms/step
                       - 0s 31ms/step
                       - 0s 36ms/step
1/1 -
1/1 -
                       - 0s 35ms/step
                       - 0s 30ms/step
1/1 -
                       - 0s 30ms/step
1/1 -
1/1 -
                       - 0s 29ms/step
                       - 0s 30ms/step
                       - 0s 30ms/step
1/1 -
                       - 0s 27ms/step
                       - 0s 26ms/step
1/1 -
1/1 -----
                       - 0s 28ms/step
                      — 0s 30ms/step - loss: 0.0037
1/1 -
                       - 0s 30ms/step - loss: 0.0035
1/1 -
                       - 0s 28ms/step
1/1 -
                       - 0s 30ms/step
1/1 -
1/1 -
                       - 0s 27ms/step
                      — 0s 39ms/step
1/1 ---
                       - 0s 32ms/step
1/1 -
1/1 -
                       - 0s 34ms/step
                       - 0s 40ms/step
                       - 0s 35ms/step
1/1 -
1/1 ----
                     — 0s 25ms/step
                       - 0s 25ms/step
1/1 -
                       - 0s 34ms/step
1/1 -
                  Os 31ms/step
                       - 0s 26ms/step
                       - 0s 31ms/step
1/1 -
                       - 0s 27ms/step
1/1 -
1/1 ----
                     Os 33ms/step
                       - 0s 30ms/step
1/1 -
                      - 0s 30ms/step
                       - 0s 26ms/step
                       - 0s 25ms/step
1/1 -
                    Os 33ms/step - loss: 0.0042
1/1 -
               0s 39ms/step - loss: 0.0043
Epoch: 028/149 | Loss: 0.0043 | Episodes: 133 | Win count: 1 | Win rate: 0.034 | tim
e: 179.3 seconds
                       - 0s 30ms/step
1/1 -
                       - 0s 28ms/step
1/1 -
1/1 -----
                       - 0s 32ms/step
1/1 -----
                    —— 0s 31ms/step
                       - 0s 27ms/step
1/1 -
                      — 0s 29ms/step
                       - 0s 23ms/step
                       - 0s 34ms/step
1/1 -
1/1 -
                     — 0s 24ms/step
1/1 -
                       - 0s 30ms/step
                       - 0s 28ms/step
1/1 -
                      - 0s 29ms/step
                       - 0s 24ms/step
1/1 -
1/1 -
                       - 0s 26ms/step
                       - 0s 28ms/step
1/1 -
                    Os 30ms/step
1/1 -
                       - 0s 33ms/step
1/1 -
              Os 25ms/step
```

4.44	0 -	24 / 1			
1/1	05	24ms/step			
1/1				-	
1/1					
1/1			-	loss:	0.0051
1/1					
1/1					
1/1	0s	34ms/step			
1/1					
1/1	0s	27ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1					
1/1	0s	25ms/step			
1/1					
1/1					
1/1	0s	28ms/step			
1/1	0s	31ms/step			
1/1	0s	28ms/step			
1/1	0s	28ms/step			
1/1	0s	41ms/step			
1/1	0s	40ms/step	-	loss:	0.0059
1/1	0s	42ms/step	_	loss:	0.0055
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	35ms/step			
1/1					
1/1	0s	29ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	28ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1			_	loss:	0.0034
1/1	0s	32ms/step	_	loss:	0.0032
1/1	0s	31ms/step			
1/1					
1/1					
1/1	95	25ms/sten			
1/1					
1/1					
1/1					
1/1	95	29ms/sten			
-, -	J 3	->3/3cep			

```
1/1 -
              Os 30ms/step
                   - 0s 26ms/step
                   - 0s 28ms/step
1/1 -
1/1 -
                   - 0s 35ms/step
                   - 0s 29ms/step
1/1 -
                   — 0s 30ms/step
1/1 ----
1/1 -
                   - 0s 30ms/step
1/1 -
                   - 0s 32ms/step
                   - 0s 30ms/step
1/1 -
                   - 0s 26ms/step
    0s 30ms/step
1/1 -
1/1 0s 29ms/step
              Os 33ms/step - loss: 0.0013
1/1 -
Epoch: 029/149 | Loss: 0.0015 | Episodes: 137 | Win count: 1 | Win rate: 0.033 | tim
e: 184.9 seconds
1/1 -----
                  — 0s 25ms/step
1/1 ———— 0s 28ms/step
                   - 0s 28ms/step
1/1 -
1/1 -
                   — 0s 35ms/step
                 —— 0s 27ms/step
1/1 -
                   - 0s 28ms/step
1/1 ———— 0s 27ms/step
                   - 0s 27ms/step
1/1 -
                   - 0s 25ms/step
1/1 -
          0s 32ms/step
                   - 0s 35ms/step
                   - 0s 31ms/step
1/1 -
1/1 -----
                   - 0s 34ms/step
1/1 0s 32ms/step
                   - 0s 36ms/step
1/1 -
                   — 0s 30ms/step
                   - 0s 27ms/step
                   - 0s 30ms/step
1/1 -
               Os 32ms/step
1/1 -
1/1 -
                   - 0s 25ms/step
1/1 -
                 —— 0s 38ms/step - loss: 0.0022
          0s 47ms/step - loss: 0.0021
                   - 0s 31ms/step
1/1 -
                   - 0s 36ms/step
1/1 -
                   - 0s 28ms/step
1/1 -
1/1 0s 35ms/step
                   - 0s 38ms/step
1/1 -
                   — 0s 26ms/step
                   - 0s 29ms/step
                   - 0s 27ms/step
1/1 -
1/1 -
                  — 0s 26ms/step
1/1 -
                   - 0s 28ms/step
                   - 0s 30ms/step
1/1 -
                   — 0s 29ms/step
1/1 -
                   - 0s 27ms/step
    Os 33ms/step
1/1 -
                   - 0s 25ms/step
1/1 -
1/1 -
           ----- 0s 25ms/step
                   - 0s 29ms/step
1/1 -
           0s 28ms/step
```

```
1/1 -----
           Os 28ms/step
    Os 30ms/step
1/1 — Os 42ms/step - loss: 0.0032
1/1 — Os 32ms/step - loss: 0.0035
Epoch: 030/149 | Loss: 0.0035 | Episodes: 139 | Win count: 2 | Win rate: 0.065 | tim
e: 187.8 seconds
1/1 ----
                 — 0s 36ms/step
1/1 -
                Os 36ms/step
          0s 35ms/step
1/1 -
                  — 0s 28ms/step
    Os 29ms/step
1/1 -
1/1 0s 32ms/step
                 —— 0s 25ms/step
1/1 -
                  - 0s 33ms/step
1/1 -
                  -- 0s 25ms/step
1/1 -
                   0s 25ms/step
1/1 -
1/1 -
                  - 0s 26ms/step
               Os 25ms/step
1/1 ----
                  - 0s 26ms/step
1/1 -
                  - 0s 25ms/step
                Os 27ms/step
1/1 -
                  - 0s 29ms/step
1/1 ———— 0s 24ms/step
                  - 0s 27ms/step
1/1 -
                  - 0s 30ms/step
1/1 -
         0s 28ms/step
                  — 0s 37ms/step - loss: 0.0034
    0s 28ms/step - loss: 0.0034
1/1 -
1/1 — 0s 29ms/step
1/1 0s 29ms/step
                  - 0s 29ms/step
1/1 -
                 — 0s 31ms/step
                   - 0s 25ms/step
                   - 0s 30ms/step
1/1 -
1/1 0s 36ms/step
1/1 -
                  - 0s 31ms/step
1/1 -
                 — 0s 29ms/step
1/1 ———— 0s 27ms/step
                  - 0s 24ms/step
1/1 -
                   - 0s 36ms/step
1/1 -
                  - 0s 31ms/step
1/1 0s 32ms/step
                  - 0s 27ms/step
1/1 -
                 --- 0s 26ms/step
                   - 0s 30ms/step
                  - 0s 34ms/step
1/1 -
           0s 31ms/step
1/1 -
1/1 -
                  - 0s 27ms/step
                  – 0s 36ms/step - loss: 0.0028
1/1 -
              Os 29ms/step - loss: 0.0027
1/1 -
                  - 0s 29ms/step
    0s 27ms/step
1/1 -
               Os 35ms/step
1/1 -
1/1 -
          Os 37ms/step
       0s 33ms/step
1/1 -
          0s 32ms/step
```

1/1	0.0	20mc/c+on			
1/1					
1/1	<b>0</b> S	28ms/step			
1/1					
1/1	0s	28ms/step			
1/1					
1/1					
1/1					
1/1	0s	33ms/step			
1/1					
1/1	0s	33ms/step			
1/1	0s	29ms/step			
1/1	0s	32ms/step			
1/1	0s	30ms/step			
1/1	0s	37ms/step	_	loss:	0.0034
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	95	29ms/sten			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	03	27ms/step			
1/1					
1/1	05	36ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
				,	0 0005
1/1					
1/1			-	Toss:	0.0025
1/1					
1/1					
1/1					
1/1					
1/1	0s	26ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1	0s	30ms/step			
1/1					
1/1					
1/1	0s	24ms/step			
1/1	0s	26ms/step			

```
1/1 -----
            Os 28ms/step
    0s 26ms/step
1/1 — Os 30ms/step - loss: 0.0026
1/1 — Os 43ms/step - loss: 0.0027
Epoch: 031/149 | Loss: 0.0027 | Episodes: 144 | Win count: 2 | Win rate: 0.062 | tim
e: 194.8 seconds
1/1 -
                  — 0s 35ms/step
1/1 -
                 —— 0s 32ms/step
           0s 35ms/step
1/1 -
                   — 0s 30ms/step
    Os 29ms/step
1/1 -
               Os 29ms/step
1/1 -----
                 —— 0s 30ms/step
1/1 -
                   - 0s 31ms/step
1/1 -
                   -- 0s 27ms/step
1/1 -
                   - 0s 30ms/step
1/1 -
1/1 -
                   - 0s 32ms/step
                 Os 29ms/step
1/1 ----
                   - 0s 36ms/step
1/1 -
                   - 0s 26ms/step
                 —— 0s 29ms/step
1/1 -
                   - 0s 26ms/step
1/1 ———— 0s 25ms/step
                   - 0s 30ms/step
1/1 -
                   - 0s 27ms/step
1/1 -
          0s 28ms/step
                   - 0s 42ms/step - loss: 0.0036
                   - 0s 37ms/step - loss: 0.0035
1/1 -
1/1 — 0s 29ms/step
1/1 0s 29ms/step
                   - 0s 38ms/step
1/1 -
                  — 0s 31ms/step
                   - 0s 25ms/step
                   - 0s 33ms/step
1/1 -
          0s 31ms/step
1/1 -----
1/1 -
                   - 0s 42ms/step
1/1 -
                  — 0s 29ms/step
1/1 0s 35ms/step
                   - 0s 29ms/step
1/1 -
                   - 0s 39ms/step
1/1 -
                   - 0s 28ms/step
1/1 Os 30ms/step
                   - 0s 28ms/step
1/1 -
                  — 0s 33ms/step
                   - 0s 39ms/step
                   - 0s 29ms/step
1/1 -
1/1 -
            Os 31ms/step
1/1 -
                   - 0s 27ms/step
                   - 0s 35ms/step - loss: 0.0023
1/1 -
               Os 32ms/step - loss: 0.0024
1/1 -
                   - 0s 30ms/step
    0s 28ms/step
1/1 -
                   - 0s 28ms/step
1/1 -
1/1 -
           Os 33ms/step
                   - 0s 30ms/step
1/1 -
           0s 29ms/step
```

```
1/1 -
               Os 26ms/step
                   - 0s 31ms/step
                   - 0s 30ms/step
1/1 ---
1/1 -
                    - 0s 29ms/step
                    - 0s 27ms/step
1/1 -
                  — 0s 29ms/step
1/1 -----
                   - 0s 34ms/step
1/1 -
                   - 0s 30ms/step
                   - 0s 26ms/step
1/1 -
                   - 0s 27ms/step
               Os 30ms/step
1/1 -
1/1 Os 27ms/step
                 —— 0s 23ms/step
1/1 -
1/1 ———— 0s 28ms/step
                   ─ 0s 38ms/step - loss: 0.0040
1/1 -
    0s 35ms/step - loss: 0.0039
Epoch: 032/149 | Loss: 0.0039 | Episodes: 147 | Win count: 2 | Win rate: 0.061 | tim
e: 199.1 seconds
                  Os 37ms/step
1/1 -----
1/1 -
                  — 0s 28ms/step
               Os 29ms/step
1/1 -
                   - 0s 27ms/step
1/1 ———— 0s 35ms/step
                   - 0s 31ms/step
1/1 -
                   - 0s 28ms/step
1/1 -
1/1 ______ 0s 30ms/step
                   - 0s 36ms/step
                    - 0s 33ms/step
1/1 -
1/1 -----
                   - 0s 29ms/step
1/1 Os 24ms/step
                   - 0s 29ms/step
1/1 -
                  — 0s 30ms/step
                    - 0s 28ms/step
                    - 0s 27ms/step
1/1 -
               Os 31ms/step
1/1 -----
1/1 -
                   - 0s 25ms/step
1/1 -
                  — 0s 30ms/step
1/1 ---- 0s 31ms/step
                   – 0s 36ms/step - loss: 0.0054
1/1 -
                    - 0s 28ms/step - loss: 0.0050
1/1 -
                   - 0s 26ms/step
1/1 ----
1/1 Os 25ms/step
                   - 0s 32ms/step
1/1 -
                   — 0s 32ms/step
                    - 0s 35ms/step
                   - 0s 45ms/step
1/1 -
1/1 -
                  — 0s 34ms/step
1/1 -
                   - 0s 32ms/step
                   - 0s 29ms/step
1/1 -
               Os 32ms/step
1/1 -
                   - 0s 32ms/step
    Os 29ms/step
1/1 -
                   - 0s 39ms/step
1/1 -
           0s 30ms/step
1/1 -
                   - 0s 45ms/step
1/1 -
           0s 29ms/step
```

```
1/1 -
               Os 32ms/step
                   - 0s 27ms/step
                  — 0s 33ms/step
1/1 ---
1/1 -
                    - 0s 33ms/step
                   - 0s 30ms/step - loss: 0.0045
1/1 -
             Os 43ms/step - loss: 0.0039
1/1 -----
1/1 -
                   - 0s 33ms/step
                  0s 41ms/step
                   0s 42ms/step
1/1 -
                   - 0s 29ms/step
    0s 28ms/step
1/1 -
1/1 Os 34ms/step
                 —— 0s 28ms/step
1/1 -
                   - 0s 31ms/step
1/1 -
1/1 -
                   — 0s 30ms/step
                    0s 35ms/step
1/1 -
1/1 -
                   - 0s 31ms/step
1/1 ----
                 —— 0s 33ms/step
                   - 0s 38ms/step
1/1 -
                   - 0s 34ms/step
                 —— 0s 28ms/step
1/1 -
                   - 0s 26ms/step
1/1 ———— 0s 40ms/step
                Os 32ms/step
1/1 -
                  --- 0s 36ms/step
1/1 -
1/1 ——— 0s 34ms/step
                   — 0s 29ms/step - loss: 0.0028
1/1 — 0s 25ms/step - 1055. 0.0026
1/1 — 0s 35ms/step - 1055: 0.0028
Epoch: 033/149 | Loss: 0.0028 | Episodes: 150 | Win count: 2 | Win rate: 0.059 | tim
e: 203.7 seconds
1/1 -----
                   - 0s 31ms/step
                 Os 37ms/step
1/1 -----
                   - 0s 33ms/step
                    - 0s 32ms/step
1/1 -
1/1 ———— 0s 26ms/step
1/1 -
                  — 0s 27ms/step
1/1 -
                 —— 0s 29ms/step
1/1 ---- 0s 28ms/step
                   - 0s 30ms/step
1/1 -
                    - 0s 30ms/step
1/1 -
               Os 43ms/step
1/1 0s 33ms/step
                   - 0s 35ms/step
1/1 -
                 —— 0s 34ms/step
                    - 0s 32ms/step
                   - 0s 31ms/step
1/1 -
           0s 25ms/step
1/1 ---
1/1 -
                 Os 35ms/step
                   - 0s 40ms/step
1/1 0s 35ms/step
                   – 0s 36ms/step - loss: 0.0028
1/1 -
1/1 — 0s 35ms/step - 10ss: 0.0028
Epoch: 034/149 | Loss: 0.0028 | Episodes: 151 | Win count: 3 | Win rate: 0.086 | tim
e: 205.2 seconds
1/1 0s 39ms/step
1/1 ---- 0s 31ms/step
```

1/1	<b>0</b> s	27ms/sten			
1/1					
1/1					
1/1	95	38ms/step			
1/1					
1/1	95	32ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	OS Os	29ms/step			
1/1					
1/1	05	28ms/step			
1/1					
1/1	95	37ms/step			
1/1					
1/1					
1/1			_	1055.	0 0016
1/1	03	37ms/step	_	1033.	0.0010
1/1				1033.	0.0010
1/1	05	38ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	29ms/step			
1/1					
1/1	0s	25ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	27ms/step			
1/1	0s	24ms/step			
1/1	0s	37ms/step			
1/1	0s	30ms/step			
1/1					
1/1					
1/1	0s	47ms/step	-	loss:	0.0035
1/1	0s	32ms/step			
1/1					
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	33ms/step			
1/1					
1/1	0s	27ms/step			
1/1					
1/1	0s	29ms/step			
1/1	ØS	აპms/step			

```
1/1 -
                 Os 38ms/step
                      - 0s 34ms/step
                      - 0s 29ms/step
1/1 -
1/1 -
                      - 0s 28ms/step
                      - 0s 36ms/step
1/1 -
                    — 0s 29ms/step
1/1 ----
1/1 -
                      - 0s 31ms/step - loss: 0.0030
1/1 -
                      Os 30ms/step - loss: 0.0029
                      - 0s 25ms/step
1/1 -
                      - 0s 31ms/step
                      - 0s 27ms/step
1/1 -
                      - 0s 24ms/step
1/1 -----
                      - 0s 33ms/step
1/1 -
                      - 0s 35ms/step
1/1 -
1/1 -
                      - 0s 33ms/step
                      - 0s 29ms/step
1/1 -
1/1 -
                      - 0s 25ms/step
                     — 0s 35ms/step
1/1 ---
                      - 0s 39ms/step
1/1 -
1/1 -
                      - 0s 34ms/step
                      - 0s 29ms/step
1/1 -
                      0s 24ms/step
1/1 -----
                    —— 0s 30ms/step
                      - 0s 30ms/step
1/1 -
                      - 0s 31ms/step
1/1 -
                 Os 29ms/step
1/1 -
                      - 0s 25ms/step
                      - 0s 30ms/step
1/1 -
                      - 0s 29ms/step - loss: 0.0027
1/1 -
1/1 -----
             Os 31ms/step - loss: 0.0030
                      - 0s 38ms/step
1/1 -
                      — 0s 28ms/step
                      - 0s 26ms/step
                      - 0s 33ms/step
1/1 -
                    — 0s 33ms/step
1/1 -
1/1 -
                      - 0s 25ms/step
1/1 -
                      - 0s 32ms/step
                      - 0s 41ms/step
                      - 0s 32ms/step
1/1 -
                      - 0s 26ms/step
1/1 -
                      - 0s 28ms/step
1/1 -
1/1 -----
                   —— 0s 32ms/step
                      - 0s 26ms/step
1/1 -
                      — 0s 30ms/step
                      - 0s 25ms/step
                      - 0s 30ms/step
1/1 -
1/1 -
                    — 0s 29ms/step
1/1 -
                      - 0s 29ms/step
                      - 0s 26ms/step
                 Os 30ms/step
                      – 0s 36ms/step - loss: 0.0025
1/1 -
1/1 — Os 30ms/step - loss: 0.0029
Epoch: 035/149 | Loss: 0.0029 | Episodes: 156 | Win count: 3 | Win rate: 0.083 | tim
e: 212.6 seconds
1/1 0s 36ms/step
1/1 ...... 0s 31ms/step
```

1/1	0s	43ms/step			
1/1					
1/1					
1/1	0s	33ms/step			
1/1					
1/1	95	25ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	03	30ms/step			
1/1					
1/1	05	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1				1	0.0046
1/1	05	35ms/step	-	1055:	0.0046
			-	1055:	0.0047
1/1	05	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1 ———————————————————————————————————	05	34ms/step			
1/1 ———————————————————————————————————	05	25ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	03	32ms/step			
1/1	03	26ms/step			
1/1	03	28ms/step			
1/1			_	1000	a aa1a
1/1					
1/1	05	29ms/step		1033.	0.0055
1/1	05	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	30ms/sten			
1/1	05	27ms/sten			
1/1					
1/1					
1/1	0s	32ms/sten			
-, -		ээ, эсср			

```
1/1 -
               Os 25ms/step
                   - 0s 25ms/step
                   - 0s 30ms/step
                   - 0s 26ms/step
                   - 0s 30ms/step
1/1 -
                  — 0s 34ms/step
1/1 -----
1/1 -
                   - 0s 36ms/step - loss: 0.0022
                   — 0s 31ms/step - loss: 0.0022
                   - 0s 31ms/step
1/1 -
                   - 0s 27ms/step
1/1 -
                   - 0s 40ms/step
                   - 0s 30ms/step
1/1 -----
                   - 0s 26ms/step
1/1 -
                   - 0s 36ms/step
1/1 -
                   - 0s 33ms/step
1/1 -
                   0s 25ms/step
1/1 -
1/1 -
                   - 0s 28ms/step
                  — 0s 26ms/step
1/1 ----
                   - 0s 27ms/step
1/1 -
                   - 0s 26ms/step
                   - 0s 26ms/step
1/1 -
                   - 0s 25ms/step
1/1 -----
                 —— 0s 32ms/step
                   - 0s 30ms/step
1/1 -
                   - 0s 26ms/step
1/1 -
1/1 0s 26ms/step
                   - 0s 34ms/step
1/1 -----
                   - 0s 29ms/step
1/1 ——— 0s 33ms/step - loss: 0.0024
Epoch: 036/149 | Loss: 0.0024 | Episodes: 160 | Win count: 3 | Win rate: 0.081 | tim
e: 218.5 seconds
1/1 ——— 0s 30ms/step
                   - 0s 30ms/step
1/1 -
1/1 ———— 0s 24ms/step
1/1 -
                   - 0s 30ms/step
1/1 -
                   - 0s 36ms/step
1/1 0s 39ms/step
                   - 0s 33ms/step
1/1 -
                   - 0s 26ms/step
1/1 -
                   - 0s 32ms/step
1/1 0s 29ms/step
                   - 0s 26ms/step
1/1 -
                   — 0s 32ms/step
                   - 0s 28ms/step
                   - 0s 27ms/step
1/1 -
1/1 -
                 — 0s 38ms/step
1/1 -
                   - 0s 30ms/step
                   - 0s 31ms/step
1/1 -
                 Os 26ms/step
                   - 0s 30ms/step
    0s 30ms/step
1/1 -
                —— 0s 33ms/step - loss: 0.0051
1/1 -
               Os 30ms/step - loss: 0.0050
1/1 -
                   - 0s 31ms/step
1/1 -
           Os 40ms/step
```

1/1					
1/1					
1/1					
1/1					
1/1	0s	27ms/step			
1/1					
1/1	0s	30ms/step			
1/1	0s	28ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	37ms/step			
1/1					
1/1	0s	29ms/step			
1/1	0s	26ms/step			
1/1					
1/1					
1/1					
1/1			-	loss:	0.0028
1/1	0s	33ms/step			
1/1					
1/1	0s	31ms/step			
1/1	0s	31ms/step			
1/1					
1/1	0s	31ms/step			
1/1	0s	23ms/step			
1/1					
1/1	0s	30ms/step			
1/1					
1/1	0s	30ms/step			
1/1	0s	41ms/step			
1/1	0s	29ms/step			
1/1					
1/1					
1/1					
1/1	0s	26ms/step			
1/1	0s	30ms/step			
1/1					
1/1					
1/1	0s	30ms/step	-	loss:	0.0044
1/1			-	loss:	0.0042
1/1					
1/1					
1/1	0s	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	35ms/step			
1/1	0s	30ms/step			
1/1					
1/1	0s	25ms/step			

```
1/1 -
                  Os 29ms/step
                      - 0s 40ms/step
                      - 0s 36ms/step
1/1 -
1/1 -
                       - 0s 24ms/step
                      - 0s 27ms/step
1/1 -
                      - 0s 32ms/step
1/1 ----
1/1 -
                      - 0s 31ms/step - loss: 0.0024
1/1 -
                      - 0s 29ms/step - loss: 0.0024
                      - 0s 28ms/step
1/1 -
                      - 0s 35ms/step
                      - 0s 29ms/step
1/1 -
                      - 0s 33ms/step
1/1 -----
                      - 0s 29ms/step
1/1 -
                      - 0s 46ms/step
1/1 -
                      - 0s 37ms/step
1/1 -
                      - 0s 31ms/step
1/1 -
1/1 -
                      - 0s 35ms/step
                      - 0s 26ms/step
1/1 ---
                      - 0s 28ms/step
1/1 -
1/1 -
                      - 0s 42ms/step
                      - 0s 28ms/step
1/1 -
                      0s 30ms/step
1/1 ----
                      - 0s 30ms/step
                      - 0s 27ms/step
1/1 -
                      - 0s 30ms/step
1/1 -
                 Os 27ms/step
1/1 -
                      - 0s 24ms/step
                      - 0s 25ms/step
1/1 -
                      - 0s 33ms/step - loss: 0.0024
1/1 -
1/1 -----
              Os 36ms/step - loss: 0.0025
                      - 0s 29ms/step
1/1 -
                      — 0s 28ms/step
                      - 0s 38ms/step
                      - 0s 29ms/step
1/1 -
                    — 0s 30ms/step
1/1 -
1/1 -
                      - 0s 29ms/step
1/1 -
                      - 0s 30ms/step
                      0s 28ms/step
                      - 0s 36ms/step
1/1 -
                      - 0s 31ms/step
1/1 -
                      - 0s 31ms/step
1/1 -
1/1 -----
                    —— 0s 29ms/step
                      - 0s 25ms/step
1/1 -
                      — 0s 25ms/step
                      - 0s 33ms/step
                      - 0s 27ms/step
1/1 -
1/1 -
                    — 0s 30ms/step
1/1 -
                      - 0s 32ms/step
                      - 0s 35ms/step
                 Os 27ms/step
1/1 -
                      - 0s 37ms/step - loss: 0.0036
1/1 — 0s 31ms/step - loss: 0.0030
Epoch: 037/149 | Loss: 0.0030 | Episodes: 166 | Win count: 3 | Win rate: 0.079 | tim
e: 227.4 seconds
                  Os 29ms/step
1/1 -----
1/1 _____ 0s 26ms/step
```

1/1					
1/1					
1/1					
1/1					
1/1	0s	29ms/step			
1/1					
1/1	0s	25ms/step			
1/1	0s	24ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	26ms/step			
1/1					
1/1	0s	37ms/step			
1/1	0s	37ms/step			
1/1					
1/1					
1/1					
1/1			-	loss:	0.0345
1/1					
1/1					
1/1	0s	33ms/step			
1/1	0s	23ms/step			
1/1					
1/1	0s	28ms/step			
1/1	0s	26ms/step			
1/1					
1/1	0s	30ms/step			
1/1					
1/1	0s	27ms/step			
1/1	0s	29ms/step			
1/1	0s	24ms/step			
1/1					
1/1					
1/1					
1/1	0s	30ms/step			
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1			-	loss:	0.0046
1/1					
1/1					
1/1	0s	28ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	36ms/step			
1/1	0s	33ms/step			
1/1					
1/1	0s	44ms/step			

1/1	0s	27ms/step			
1/1					
1/1	0s	29ms/step			
1/1	0s	32ms/step			
1/1					
1/1	0s	24ms/step			
1/1			_	loss:	0.0040
1/1					
1/1					
1/1	0s	29ms/step			
1/1					
1/1	0s	28ms/step			
1/1					
1/1	0s	35ms/step			
1/1					
1/1	0s	30ms/step			
1/1					
1/1					
1/1	0s	28ms/step			
1/1	0s	31ms/step			
1/1					
1/1	0s	33ms/step			
1/1					
1/1					
1/1					
1/1	0s	29ms/step			
1/1	0s	29ms/step			
1/1	0s	28ms/step			
1/1	0s	30ms/step	-	loss:	0.0036
1/1	0s	35ms/step	-	loss:	0.0039
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	38ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	43ms/step	-	loss:	0.0027
1/1	0s	44ms/step	-	loss:	0.0029
1/1					
1/1					
1/1	0s	28ms/step			
1/1	0s	31ms/step			

```
1/1 -
                     --- 0s 34ms/step
                       - 0s 27ms/step
                       - 0s 31ms/step
1/1 -
1/1 -
                        - 0s 33ms/step
                        - 0s 30ms/step
1/1 -
                       - 0s 25ms/step
1/1 -
1/1 -
                       - 0s 32ms/step
                        - 0s 30ms/step
                       - 0s 27ms/step
1/1 -
                       - 0s 36ms/step
                       - 0s 29ms/step
1/1 -
1/1 -----
                       - 0s 30ms/step
                       - 0s 32ms/step
1/1 -
                       - 0s 36ms/step
1/1 -
                       - 0s 29ms/step
1/1 -
                       - 0s 28ms/step
1/1 -
                       - 0s 35ms/step - loss: 0.0017
1/1 -
                      — 0s 37ms/step - loss: 0.0018
1/1 ---
                       - 0s 28ms/step
1/1 -
1/1 -
                       - 0s 27ms/step
                       - 0s 26ms/step
                       - 0s 27ms/step
1/1 -
1/1 -----
                       - 0s 46ms/step
                       - 0s 41ms/step
1/1 -
                       - 0s 38ms/step
1/1 -
                       - 0s 29ms/step
                       - 0s 32ms/step
                       - 0s 34ms/step
1/1 -
                       - 0s 36ms/step
1/1 -
1/1 ----
                      — 0s 47ms/step
                       - 0s 32ms/step
1/1 -
                       - 0s 31ms/step
                       - 0s 26ms/step
                        - 0s 28ms/step
1/1 -
                       - 0s 29ms/step
1/1 -
1/1 -
                       - 0s 29ms/step
1/1 -
                       - 0s 33ms/step
1/1 0s 25ms/step
                       — 0s 38ms/step - loss: 0.0053
1/1 -
                   Os 36ms/step - loss: 0.0054
Epoch: 038/149 | Loss: 0.0054 | Episodes: 173 | Win count: 3 | Win rate: 0.077 | tim
e: 237.6 seconds
1/1 -----
                       - 0s 27ms/step
1/1 -
                      — 0s 31ms/step
                       - 0s 28ms/step
                       - 0s 33ms/step
1/1 -
1/1 ---
                       - 0s 27ms/step
1/1 -
                       - 0s 33ms/step
                       - 0s 33ms/step
1/1 -
                       - 0s 33ms/step
1/1 -
                       - 0s 31ms/step
1/1 -
                       - 0s 29ms/step
                       - 0s 31ms/step
1/1 -
                     — 0s 32ms/step
1/1 -
                       - 0s 33ms/step
1/1 -
                  Os 34ms/step
```

```
1/1 -
                 Os 29ms/step
                      - 0s 32ms/step
                      - 0s 31ms/step
1/1 -
1/1 -
                      - 0s 29ms/step
                      - 0s 35ms/step
1/1 -
                     - 0s 29ms/step
1/1 ----
1/1 -
                      - 0s 32ms/step - loss: 0.0026
1/1 -
                      – 0s 30ms/step - loss: 0.0027
                      - 0s 30ms/step
1/1 -
                      - 0s 36ms/step
                      - 0s 31ms/step
1/1 -
                      - 0s 32ms/step
1/1 -----
1/1 -
                      - 0s 26ms/step
                      - 0s 28ms/step
1/1 -
1/1 -
                      0s 34ms/step
                      - 0s 34ms/step
1/1 -
1/1 -
                      - 0s 33ms/step
                      - 0s 28ms/step
1/1 ---
                      - 0s 26ms/step
1/1 -
1/1 -
                      - 0s 32ms/step
                      - 0s 28ms/step
1/1 -
                      - 0s 26ms/step
1/1 -----
                    —— 0s 32ms/step
                      - 0s 27ms/step
1/1 -
                      - 0s 30ms/step
1/1 -
                 Os 23ms/step
1/1 -
                      - 0s 22ms/step
                      - 0s 48ms/step
1/1 -
                      - 0s 33ms/step - loss: 0.0059
1/1 -
1/1 -----
              Os 43ms/step - loss: 0.0056
                      - 0s 31ms/step
1/1 -
                      — 0s 29ms/step
                      - 0s 38ms/step
                      - 0s 24ms/step
1/1 -
                    --- 0s 32ms/step
1/1 -
1/1 -
                      - 0s 29ms/step
1/1 -
                      - 0s 35ms/step
                      - 0s 30ms/step
                      - 0s 31ms/step
1/1 -
                      - 0s 29ms/step
1/1 -
                      - 0s 29ms/step
1/1 -
1/1 -----
                   —— 0s 25ms/step
                      - 0s 25ms/step
1/1 -
                      — 0s 50ms/step
                      - 0s 37ms/step
                      - 0s 33ms/step
1/1 -
1/1 -
                    — 0s 38ms/step
1/1 -
                      - 0s 30ms/step
                      - 0s 29ms/step
                 Os 27ms/step
                      – 0s 36ms/step - loss: 0.0039
1/1 -
1/1 — 0s 37ms/step - loss: 0.0036
Epoch: 039/149 | Loss: 0.0036 | Episodes: 176 | Win count: 3 | Win rate: 0.075 | tim
e: 242.0 seconds
1/1 Os 37ms/step
1/1 ...... 0s 29ms/step
```

1/1	00	26mc/c+on			
1/1					
1/1					
1/1	05	42ms/step			
1/1					
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	32ms/step			
1/1	0s	30ms/step			
1/1	0s	29ms/step			
1/1	0s	27ms/step			
1/1					
1/1	0s	25ms/step			
1/1					
1/1					
1/1			_	loss:	0.0283
1/1					
1/1					
1/1	0s	29ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	OS OS	31ms/step			
1/1					
1/1	05	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
				,	0 0007
1/1					
1/1			-	1055:	0.0037
1/1	05	28ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	32ms/step			
1/1	0s	27ms/step			
1/1					
1/1					
1/1	0s	28ms/step			
1/1	0s	35ms/step			

1/1	05	28ms/sten			
1/1					
1/1					
1/1	0s	34ms/step			
1/1					
1/1	0s	27ms/step			
1/1			_	loss:	0.0030
1/1					
1/1					
1/1	0s	36ms/step			
1/1	0s	31ms/step			
1/1	0s	32ms/step			
1/1	0s	26ms/step			
1/1	0s	28ms/step			
1/1					
1/1	0s	29ms/step			
1/1	0s	31ms/step			
1/1					
1/1	0s	27ms/step			
1/1	0s	26ms/step			
1/1	0s	28ms/step			
1/1	0s	26ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	34ms/step			
1/1					
1/1	0s	36ms/step	-	loss:	0.0041
1/1	0s	29ms/step	- -	<pre>loss: loss:</pre>	0.0041 0.0039
1/1	0s 0s	29ms/step 26ms/step	-	loss:	0.0041 0.0039
1/1 ———————————————————————————————————	0s 0s 0s	29ms/step 26ms/step 30ms/step	-	loss:	0.0041 0.0039
1/1 ———————————————————————————————————	0s 0s 0s 0s	29ms/step 26ms/step 30ms/step 30ms/step	-	loss:	0.0041 0.0039
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s	29ms/step 26ms/step 30ms/step 30ms/step 26ms/step	-	loss:	0.0041 0.0039
1/1 ———————————————————————————————————	0s 0s 0s 0s 0s	29ms/step 26ms/step 30ms/step 30ms/step 26ms/step 29ms/step	-	loss:	0.0041 0.0039
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s 0s	29ms/step 26ms/step 30ms/step 30ms/step 26ms/step 29ms/step 31ms/step	-	loss:	0.0041 0.0039
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s 0s	29ms/step 26ms/step 30ms/step 30ms/step 26ms/step 29ms/step 31ms/step 32ms/step	-	loss:	0.0041 0.0039
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s 0s 0s	29ms/step 26ms/step 30ms/step 30ms/step 26ms/step 29ms/step 31ms/step 32ms/step 27ms/step	-	loss:	0.0041 0.0039
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s 0s 0s	29ms/step 26ms/step 30ms/step 30ms/step 26ms/step 29ms/step 31ms/step 37ms/step 31ms/step	-	loss:	0.0041 0.0039
1/1	0s 0s 0s 0s 0s 0s 0s 0s	29ms/step 26ms/step 30ms/step 30ms/step 26ms/step 29ms/step 31ms/step 37ms/step 31ms/step 31ms/step	-	loss:	0.0041 0.0039
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s	29ms/step 26ms/step 30ms/step 26ms/step 29ms/step 31ms/step 32ms/step 31ms/step 31ms/step 33ms/step	-	loss:	0.0041 0.0039
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	29ms/step 26ms/step 30ms/step 26ms/step 29ms/step 31ms/step 32ms/step 31ms/step 31ms/step 33ms/step 37ms/step	-	loss:	0.0041 0.0039
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	29ms/step 26ms/step 30ms/step 26ms/step 29ms/step 31ms/step 32ms/step 31ms/step 31ms/step 31ms/step 33ms/step 37ms/step 37ms/step	-	loss:	0.0041 0.0039
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	29ms/step 26ms/step 30ms/step 30ms/step 26ms/step 29ms/step 31ms/step 31ms/step 31ms/step 33ms/step 37ms/step 37ms/step 29ms/step	-	loss:	0.0041 0.0039
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	29ms/step 26ms/step 30ms/step 30ms/step 26ms/step 29ms/step 31ms/step 31ms/step 31ms/step 31ms/step 37ms/step 37ms/step 29ms/step 28ms/step	-	loss:	0.0041 0.0039
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	29ms/step 26ms/step 30ms/step 30ms/step 26ms/step 29ms/step 31ms/step 31ms/step 31ms/step 31ms/step 37ms/step 37ms/step 29ms/step 28ms/step 33ms/step	-	loss:	0.0041 0.0039
1/1	0s 0	29ms/step 26ms/step 30ms/step 30ms/step 26ms/step 29ms/step 31ms/step 31ms/step 31ms/step 31ms/step 37ms/step 37ms/step 29ms/step 29ms/step 29ms/step 29ms/step	-	loss:	0.0041 0.0039
1/1	0s 0	29ms/step 26ms/step 30ms/step 30ms/step 26ms/step 29ms/step 31ms/step 31ms/step 31ms/step 31ms/step 37ms/step 37ms/step 29ms/step 29ms/step 29ms/step 29ms/step 29ms/step 28ms/step	-	loss:	0.0041 0.0039
1/1	0s 0	29ms/step 26ms/step 30ms/step 30ms/step 26ms/step 29ms/step 31ms/step 31ms/step 31ms/step 31ms/step 37ms/step 37ms/step 29ms/step 29ms/step 28ms/step 29ms/step 29ms/step 29ms/step 29ms/step		loss:	0.0041
1/1	0s 0	29ms/step 26ms/step 30ms/step 30ms/step 26ms/step 29ms/step 31ms/step 31ms/step 31ms/step 31ms/step 37ms/step 37ms/step 29ms/step 28ms/step 29ms/step 29ms/step 28ms/step 28ms/step 30ms/step 28ms/step		loss:	0.0039
1/1	0s 0	29ms/step 26ms/step 30ms/step 30ms/step 26ms/step 29ms/step 31ms/step 31ms/step 31ms/step 31ms/step 37ms/step 37ms/step 29ms/step 29ms/step 28ms/step 29ms/step 28ms/step 28ms/step 30ms/step 30ms/step 32ms/step		loss:	0.0039
1/1	0s 0	29ms/step 26ms/step 30ms/step 30ms/step 26ms/step 29ms/step 31ms/step 31ms/step 31ms/step 31ms/step 31ms/step 33ms/step 37ms/step 29ms/step 29ms/step 28ms/step 28ms/step 28ms/step 28ms/step 28ms/step 28ms/step 28ms/step 28ms/step 28ms/step		loss:	0.0039
1/1	0s 0	29ms/step 26ms/step 30ms/step 30ms/step 26ms/step 29ms/step 31ms/step 31ms/step 31ms/step 31ms/step 37ms/step 37ms/step 29ms/step 29ms/step 28ms/step 28ms/step 28ms/step 28ms/step 28ms/step 28ms/step 28ms/step 28ms/step 28ms/step 28ms/step 28ms/step 28ms/step		loss:	0.0039
1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1	0s 0	29ms/step 26ms/step 30ms/step 30ms/step 26ms/step 29ms/step 31ms/step 31ms/step 31ms/step 31ms/step 37ms/step 37ms/step 29ms/step 28ms/step 29ms/step 29ms/step 29ms/step 29ms/step 29ms/step 29ms/step 29ms/step 28ms/step 30ms/step 28ms/step 32ms/step 32ms/step 34ms/step 34ms/step		loss:	0.0039
1/1	0s 0	29ms/step 26ms/step 30ms/step 30ms/step 26ms/step 29ms/step 31ms/step 31ms/step 31ms/step 31ms/step 37ms/step 37ms/step 29ms/step 28ms/step 29ms/step 28ms/step 29ms/step 28ms/step 29ms/step 28ms/step 29ms/step 28ms/step 30ms/step 28ms/step 32ms/step 32ms/step 29ms/step 29ms/step 29ms/step 29ms/step 29ms/step 29ms/step 29ms/step 29ms/step		loss:	0.0039

1/1	95	28ms/sten			
1/1					
1/1					
1/1	95	26ms/step			
1/1					
1/1	05	10ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	31ms/step			
1/1					
1/1	05	2/ms/step			
1/1					
1/1					
1/1				_	
1/1					
1/1			-	loss:	0.0026
1/1	0s	31ms/step			
1/1					
1/1	0s	35ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	45ms/step			
1/1	0s	31ms/step			
1/1	0s	36ms/step			
1/1	0s	30ms/step			
1/1					
1/1	0s	24ms/step			
1/1	0s	26ms/step			
1/1	0s	25ms/step			
1/1	0s	27ms/step			
1/1	0s	31ms/step			
1/1	0s	30ms/step			
1/1	0s	28ms/step			
1/1	0s	33ms/step	-	loss:	0.0029
1/1	0s	32ms/step	-	loss:	0.0028
1/1	0s	29ms/step			
1/1					
1/1	0s	32ms/step			
1/1	0s	37ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	95	31ms/sten			
1/1	95	26ms/sten			
1/1					
1/1					
1/1	00	30mc/c+an			
±/ ±	03	Joins/ Steb			

```
1/1 -
             _____ 0s 30ms/step
              Os 30ms/step
1/1 ---
                --- 0s 38ms/step
1/1 -
                  - 0s 33ms/step
                  - 0s 44ms/step - loss: 0.0028
1/1 -
1/1 ——— 0s 39ms/step - loss: 0.0025
Epoch: 040/149 | Loss: 0.0025 | Episodes: 184 | Win count: 3 | Win rate: 0.073 | tim
e: 253.6 seconds
                —— 0s 32ms/step
1/1 -
                  - 0s 26ms/step
1/1 os 45ms/step
1/1 0s 35ms/step
                Os 30ms/step
1/1 ---
1/1 -----
                  - 0s 27ms/step
                 - 0s 27ms/step
1/1 -
                  0s 34ms/step
1/1 -
1/1 -
                  - 0s 34ms/step
1/1 -----
               Os 31ms/step
                  - 0s 25ms/step
1/1 -
1/1 -
                 - 0s 26ms/step
                —— 0s 35ms/step
1/1 -
                  - 0s 30ms/step
1/1 ———— 0s 32ms/step
                  - 0s 28ms/step
1/1 -
                 - 0s 39ms/step
1/1 -
1/1 ——— 0s 37ms/step
                  - 0s 29ms/step
                  - 0s 28ms/step
1/1 -
1/1 ——— 0s 31ms/step - loss: 0.0026
                  - 0s 25ms/step
1/1 -
                --- 0s 30ms/step
                  - 0s 28ms/step
                  - 0s 27ms/step
1/1 -
1/1 ———— 0s 31ms/step
1/1 -
                  - 0s 27ms/step
1/1 -
                --- 0s 27ms/step
- 0s 26ms/step
1/1 -
                  - 0s 32ms/step
1/1 -
                  - 0s 29ms/step
1/1 ----
1/1 Os 27ms/step
                  - 0s 27ms/step
1/1 -
                 --- 0s 33ms/step
                  - 0s 34ms/step
                  - 0s 31ms/step
1/1 -
1/1 -
               ____ 0s 33ms/step
1/1 -
                  - 0s 35ms/step
                  - 0s 38ms/step
1/1 -
1/1 0s 33ms/step
                  - 0s 44ms/step - loss: 0.0020
1/1 -
    0s 31ms/step - loss: 0.0020
1/1 -
              Os 30ms/step
1/1 -
         Os 29ms/step
1/1 -
      Os 45ms/step
1/1 -
1/1 ---- 0s 37ms/step
```

```
1/1 -
                    Os 32ms/step
                       - 0s 29ms/step
                       - 0s 29ms/step
1/1 -
1/1 -
                       - 0s 43ms/step
                       - 0s 34ms/step
1/1 -
                       - 0s 30ms/step
1/1 ----
1/1 -
                       - 0s 27ms/step
                       - 0s 33ms/step
                       - 0s 38ms/step
1/1 -
                       - 0s 32ms/step
                       - 0s 28ms/step
1/1 -
                       - 0s 25ms/step
1/1 -----
                       - 0s 34ms/step
1/1 -
                       - 0s 24ms/step
1/1 -
                       - 0s 28ms/step
1/1 -
                       - 0s 31ms/step
1/1 -
                       - 0s 36ms/step - loss: 0.0030
1/1 -
1/1 ——— 0s 32ms/step - loss: 0.0031
Epoch: 041/149 | Loss: 0.0031 | Episodes: 187 | Win count: 3 | Win rate: 0.071 | tim
e: 258.0 seconds
1/1
                       - 0s 25ms/step
                       - 0s 27ms/step
1/1 -
1/1 -----
                       - 0s 32ms/step
                       - 0s 25ms/step
1/1 -
                       - 0s 30ms/step
1/1 -
                       - 0s 35ms/step
                       - 0s 32ms/step
                       - 0s 30ms/step
1/1 -
1/1 -
                       - 0s 36ms/step
                     Os 33ms/step
1/1 -----
                       - 0s 29ms/step
1/1 -
                       - 0s 23ms/step
                       - 0s 25ms/step
                       - 0s 27ms/step
1/1 -
                      — 0s 34ms/step
1/1 -
1/1 -
                       - 0s 29ms/step
1/1 -
                       - 0s 26ms/step
                       0s 27ms/step
                       - 0s 39ms/step
1/1 -
                       - 0s 27ms/step
1/1 -
                       – 0s 36ms/step - loss: 0.0034
1/1 -
1/1 ---
                     --- 0s 30ms/step - loss: 0.0036
                       - 0s 36ms/step
1/1 -
                       0s 39ms/step
                       - 0s 30ms/step
                       - 0s 27ms/step
1/1 -
1/1 -
                       - 0s 29ms/step
1/1 -
                       - 0s 35ms/step
                       - 0s 32ms/step
1/1 -
                       - 0s 27ms/step
1/1 -
                       - 0s 27ms/step
1/1 -
                       - 0s 27ms/step
                       - 0s 25ms/step
1/1 -
1/1 -
                      - 0s 27ms/step
                       - 0s 29ms/step
1/1 -
                  0s 26ms/step
```

```
1/1 -
                Os 27ms/step
                     - 0s 27ms/step
                    - 0s 27ms/step
1/1 -
1/1 -
                     - 0s 23ms/step
                     - 0s 30ms/step
1/1 -
                   — 0s 33ms/step
1/1 ----
1/1 -
                     - 0s 40ms/step - loss: 0.0025
1/1 -
                    — 0s 30ms/step - loss: 0.0026
                     - 0s 27ms/step
1/1 -
                     - 0s 29ms/step
                     - 0s 30ms/step
1/1 -
                     - 0s 26ms/step
1/1 -----
                     - 0s 29ms/step
1/1 -
                     - 0s 26ms/step
1/1 -
1/1 -
                     - 0s 33ms/step
                     0s 26ms/step
1/1 -
1/1 -
                     - 0s 30ms/step
                   — 0s 25ms/step
1/1 ---
                     - 0s 27ms/step
1/1 -
1/1 -
                     - 0s 28ms/step
                     - 0s 30ms/step
1/1 -
                     0s 24ms/step
1/1
                   —— 0s 25ms/step
                     - 0s 31ms/step
1/1 -
                     - 0s 38ms/step
1/1 -
            0s 33ms/step
                     - 0s 36ms/step
                     - 0s 31ms/step
1/1 -
1/1 -----
                     - 0s 33ms/step - loss: 0.0021
1/1 -----
            Os 35ms/step - loss: 0.0021
                     - 0s 25ms/step
1/1 -
                    — 0s 26ms/step
                     - 0s 28ms/step
                     - 0s 27ms/step
1/1 -
                   Os 30ms/step
1/1 -
1/1 -
                     - 0s 34ms/step
1/1 -
                    - 0s 27ms/step
           0s 29ms/step
                     - 0s 26ms/step
1/1 -
                     - 0s 32ms/step
1/1 -
                     - 0s 25ms/step
1/1 -
1/1 -----
            Os 27ms/step
                     - 0s 29ms/step
1/1 -
                    — 0s 36ms/step
                     - 0s 41ms/step
                     - 0s 32ms/step
1/1 -
1/1 -
                   —— 0s 31ms/step
1/1 -
                     - 0s 24ms/step
                     - 0s 27ms/step
                Os 27ms/step
1/1 -
                     - 0s 36ms/step - loss: 0.0022
1/1 — 0s 32ms/step - loss: 0.0022
Epoch: 042/149 | Loss: 0.0022 | Episodes: 191 | Win count: 3 | Win rate: 0.070 | tim
e: 263.7 seconds
1/1 Os 27ms/step
1/1 _____ 0s 26ms/step
```

1/1	 0s	26ms/step			
1/1	0s	27ms/step			
1/1	 0s	25ms/step			
1/1	0s	39ms/step			
1/1	0s	30ms/step			
1/1	05	25ms/step			
1/1	 05	25ms/step			
				_	
1/1	 0s	32ms/step	-	loss:	0.0013
1/1	 0s	34ms/step	-	loss:	0.0013
1/1	0s	26ms/step			
1/1	 0s	28ms/step			
1/1	0s	35ms/step			
1/1	 0s	33ms/step			
1/1	0s	28ms/step			
1/1	0s	33ms/step			
1/1	0s	26ms/step			
1/1	 95	32ms/step			
1/1	 05	27ms/step			
1/1	 05	30ms/step			
1/1	 03	30ms/step			
1/1	05	27ms/step			
1/1	05	2/11/5/5tep			
1/1	05	29111S/Step			
1/1	05	2/ms/step			
1/1	 05	33ms/step			
				_	
			-	loss:	0.0022
1/1	 0s	32ms/step			
1/1	0s	29ms/step			
1/1	 0s	28ms/step			
1/1	0s	30ms/step			
1/1	0s	32ms/step			
1/1	 0s	34ms/step			
1/1	0s	36ms/step			
1/1	0s	28ms/step			
1/1	0s	34ms/step			
1/1	0s	31ms/step			
1/1	 0s	32ms/sten			
1/1	 05	44ms/sten			
1/1	 95	32ms/sten			
-, -	U3	<i>σ</i> 2σ/ στερ			

```
1/1 -
                Os 31ms/step
                    - 0s 32ms/step
                    - 0s 33ms/step
1/1 -
                    - 0s 32ms/step
                    - 0s 32ms/step
1/1 -
                   - 0s 29ms/step
1/1 ----
1/1 -
                    - 0s 29ms/step - loss: 0.0018
                    − 0s 34ms/step - loss: 0.0017
                    - 0s 34ms/step
1/1 -
                    - 0s 34ms/step
                    - 0s 27ms/step
1/1 -
                    - 0s 25ms/step
1/1 -----
                    - 0s 35ms/step
1/1 -
                    - 0s 30ms/step
1/1 -
                    - 0s 24ms/step
1/1 -
1/1 -
                    0s 29ms/step
1/1 -
                    - 0s 26ms/step
                   — 0s 32ms/step
1/1 ----
                    - 0s 41ms/step
1/1 -
                    - 0s 30ms/step
                    - 0s 36ms/step
1/1 -
                    - 0s 32ms/step
1/1 -----
                  —— 0s 34ms/step
                    - 0s 31ms/step
1/1 -
                    - 0s 26ms/step
1/1 -
               Os 31ms/step
                    - 0s 40ms/step
1/1 -----
                    - 0s 26ms/step
1/1 ——— 0s 32ms/step - loss: 0.0036
Epoch: 043/149 | Loss: 0.0036 | Episodes: 195 | Win count: 3 | Win rate: 0.068 | tim
e: 269.7 seconds
1/1 ——— 0s 28ms/step
                    - 0s 36ms/step
1/1 -
1/1 ———— 0s 28ms/step
1/1 -
                    - 0s 26ms/step
1/1 -
                    - 0s 25ms/step
                    - 0s 29ms/step
                    - 0s 34ms/step
1/1 -
                    - 0s 33ms/step
1/1 -
                    - 0s 39ms/step
1/1 0s 35ms/step
                    - 0s 44ms/step
1/1 -
                    — 0s 30ms/step
                    - 0s 29ms/step
                    - 0s 30ms/step
1/1 -
1/1 -
                  --- 0s 27ms/step
1/1 -
                    - 0s 27ms/step
                    - 0s 36ms/step
1/1 -
                  —— 0s 25ms/step
1/1 -
                    - 0s 31ms/step
    0s 35ms/step
1/1 -
                  --- 0s 26ms/step - loss: 0.0346
1/1 -
               Os 35ms/step - loss: 0.0325
1/1 -
                    - 0s 34ms/step
1/1 -
            0s 35ms/step
```

1/1	0s	28ms/step			
1/1	0s	29ms/step			
1/1	0s	31ms/step			
1/1	0s	24ms/step			
1/1	0s	29ms/step			
1/1	0s	27ms/step			
1/1	0s	26ms/step			
1/1	0s	29ms/step			
1/1	 0s	28ms/step			
			-	loss:	0.0039
1/1	0s	30ms/step			
1/1	 0s	28ms/step			
1/1	0s	27ms/step			
1/1	0s	33ms/step			
1/1	 0s	31ms/step			
1/1	0s	26ms/step			
1/1	0s	29ms/step			
1/1	0s	32ms/step			
1/1	0s	51ms/step	-	loss:	0.0027
			-	loss:	0.0030
1/1	0s	23ms/step			
1/1	0s	27ms/step			
1/1	0s	29ms/step			
1/1	0s	28ms/step			

1/1	0s	27ms/step			
1/1					
1/1	0s	33ms/step			
1/1	0s	36ms/step			
1/1	0s	28ms/step			
1/1	0s	24ms/step			
1/1	0s	31ms/step	_	loss:	0.0050
1/1	0s	31ms/step	_	loss:	0.0046
1/1	0s	32ms/step			
1/1	0s	26ms/step			
1/1					
1/1	0s	27ms/step			
1/1	0s	30ms/step			
1/1	0s	28ms/step			
1/1	05	27ms/step			
1/1	0s	32ms/step			
1/1	95	39ms/sten			
1/1	95	26ms/step			
1/1					
1/1	05	52ms/step			
1/1	05	37ms/step			
1/1	05	28ms/step			
1/1	05	20ms/step			
1/1	05	24ms/step			
1/1	05	341115/Step			
1/1	05	29ms/step			
1/1					
1/1	05	26ms/step			
1/1	05	25ms/step		1	0 0060
1/1					
			-	loss:	0.0051
1/1					
1/1	0S	2/ms/step			
1/1	05	32ms/step			
1/1	05	28ms/step			
1/1	0S	35ms/step			
1/1	0s	46ms/step			
1/1	0s	38ms/step			
1/1	0s	32ms/step			
1/1	0s	35ms/step			
1/1	0s	25ms/step			
1/1	0s	30ms/step			
1/1					
1/1	0s	25ms/step			
1/1	0s	29ms/step			
1/1	0s	27ms/step			
1/1	0s	29ms/step			
1/1	0s	25ms/step			
1/1	0s	33ms/step			
1/1	0s	27ms/step			
1/1					
1/1	0s	34ms/step	-	loss:	0.0015
1/1	0s	28ms/step	-	loss:	0.0017
1/1	0s	29ms/step			
1/1	0s	27ms/step			
1/1	0s	42ms/step			
1/1	0s	28ms/step			

```
1/1 -
                     Os 47ms/step
                       - 0s 33ms/step
                       - 0s 35ms/step
1/1 -
1/1 -
                       - 0s 27ms/step
                       - 0s 28ms/step
1/1 -
                       - 0s 28ms/step
1/1 ----
1/1 -
                       - 0s 28ms/step
1/1 -
                       - 0s 32ms/step
                       - 0s 34ms/step
1/1 -
                       - 0s 28ms/step
                       - 0s 31ms/step
1/1 -
                       - 0s 31ms/step
1/1 -----
                       - 0s 30ms/step
1/1 -
                       - 0s 24ms/step
1/1 -
                       - 0s 28ms/step
1/1 -
                       - 0s 29ms/step
1/1 -
                       - 0s 35ms/step - loss: 0.0031
1/1 -
1/1 ——— 0s 28ms/step - loss: 0.0028
Epoch: 044/149 | Loss: 0.0028 | Episodes: 202 | Win count: 3 | Win rate: 0.067 | tim
e: 279.8 seconds
1/1 -----
                       - 0s 36ms/step
1/1 -
                       - 0s 43ms/step
1/1 -----
                       - 0s 31ms/step
                       - 0s 29ms/step
1/1 -
                       - 0s 27ms/step
1/1 -
                    Os 29ms/step
                       - 0s 32ms/step
                       - 0s 26ms/step
1/1 -
                       - 0s 30ms/step
1/1 -
                     --- 0s 34ms/step
1/1 -----
                       - 0s 26ms/step
1/1 -
                       - 0s 25ms/step
                       - 0s 33ms/step
                       - 0s 29ms/step
1/1 -
                     — 0s 25ms/step
1/1 -
1/1 -
                       - 0s 32ms/step
1/1 -
                       - 0s 25ms/step
                       0s 34ms/step
                       - 0s 38ms/step
1/1 -
                       - 0s 32ms/step
1/1 -
                       - 0s 42ms/step - loss: 0.0025
1/1 -
1/1 -----
                     —— 0s 31ms/step - loss: 0.0029
                       - 0s 29ms/step
1/1 -
                       - 0s 26ms/step
                       - 0s 26ms/step
                       - 0s 25ms/step
1/1 -
1/1 -
                       - 0s 25ms/step
1/1 -
                       - 0s 42ms/step
                       - 0s 23ms/step
1/1 -
                       - 0s 26ms/step
1/1 -
                       - 0s 28ms/step
1/1 -
                       - 0s 29ms/step
                       - 0s 32ms/step
1/1 -
1/1 -
                      — 0s 24ms/step
                       - 0s 25ms/step
1/1 -
                  Os 29ms/step
```

1/1	0s	29ms/step			
1/1					
1/1	0s	29ms/step			
1/1	0s	31ms/step			
1/1	0s	33ms/step			
1/1	0s	27ms/step			
1/1	0s	33ms/step	-	loss:	0.0028
1/1	0s	36ms/step	-	loss:	0.0027
1/1	0s	23ms/step			
1/1					
1/1	0s	25ms/step			
1/1	0s	28ms/step			
1/1	0s	30ms/step			
1/1	0s	25ms/step			
1/1					
1/1					
1/1	0s	28ms/step			
1/1	05	33ms/step			
1/1					
1/1	95	24ms/step			
1/1	05	38ms/step			
1/1	05	3/ms/step			
1/1	05	35ms/step			
1/1	05	39ms/step			
1/1	05	29111S/Step			
1/1	05	29ms/step			
1/1					
1/1	05	31ms/step			
1/1	05	28ms/step		1	0 0031
1/1	05	2/ms/step	-	loss:	0.0031
			-	loss:	0.0033
1/1					
1/1	0s	33ms/step			
1/1	0s	28ms/step			
1/1	0s	28ms/step			
1/1	0s	28ms/step			
1/1	0s	27ms/step			
1/1	0s	32ms/step			
1/1	0s	33ms/step			
1/1	0s	28ms/step			
1/1	0s	29ms/step			
1/1	0s	29ms/step			
1/1					
1/1	0s	31ms/step			
1/1	0s	29ms/step			
1/1	0s	27ms/step			
1/1	0s	28ms/step			
1/1	0s	38ms/step			
1/1	0s	31ms/step			
1/1	0s	35ms/step			
1/1	0s	39ms/step			
1/1			_	loss:	0.0393
1/1	0s	32ms/sten	_	loss:	0.0381
1/1	0s	24ms/step			
1/1	05	31ms/sten			
1/1	05	39ms/sten			
1/1	95	27ms/sten			
-/ -	<b>U</b> 3	-/ m3/ 3 τερ			

1/1	0s	29ms/step			
1/1	0s	34ms/step			
1/1	0s	37ms/step			
1/1	0s	26ms/step			
1/1	05	30ms/step			
1/1	05	34ms/step			
1/1	0s	34ms/step	-	loss:	0.0027
1/1	0s	34ms/step			
1/1	0s	33ms/step			
1/1	0s	29ms/step			
1/1	0s	30ms/step			
1/1	0s	28ms/step			
1/1	0s	32ms/step			
1/1	05	36ms/sten			
			_	1055.	0 0030
				1055.	0.0023
1/1	05	29ms/step			
1/1	05	28ms/step			
1/1	05	30mc/c+00			
Τ/ Ι	05	Zoms/step			

```
1/1 -
            _____ 0s 36ms/step
     0s 36ms/step
1/1 ----
               ---- 0s 28ms/step
1/1 ---
                  - 0s 36ms/step
                  - 0s 31ms/step - loss: 0.0025
1/1 -
1/1 ——— 0s 37ms/step - loss: 0.0025
Epoch: 045/149 | Loss: 0.0025 | Episodes: 209 | Win count: 3 | Win rate: 0.065 | tim
e: 289.9 seconds
                Os 32ms/step
                 - 0s 29ms/step
1/1 -
1/1 _____ 0s 26ms/step
1/1 0s 26ms/step
               ---- 0s 24ms/step
1/1 ---
1/1
                  - 0s 43ms/step
                 -- 0s 32ms/step
1/1 -
                  0s 29ms/step
1/1 -
1/1 -
                 - 0s 24ms/step
1/1 -----
          Os 31ms/step
                  - 0s 33ms/step
1/1 -
1/1 -
                 - 0s 30ms/step
              ——— 0s 32ms/step
1/1 -
                  - 0s 29ms/step
1/1 ———— 0s 30ms/step
                  - 0s 31ms/step
1/1 -
                 — 0s 29ms/step
1/1 -
1/1 ---- 0s 26ms/step
                 - 0s 26ms/step
                  - 0s 29ms/step
1/1 -
1/1 ——— 0s 32ms/step - loss: 0.0025
                  - 0s 29ms/step
1/1 -
                --- 0s 29ms/step
                  - 0s 26ms/step
                  - 0s 32ms/step
1/1 -
1/1 0s 32ms/step
1/1 -
                 — 0s 32ms/step
1/1 -
                --- 0s 26ms/step
1/1 ...... 0s 27ms/step
                 - 0s 37ms/step
1/1 -
                  - 0s 32ms/step
1/1 -
                 - 0s 28ms/step
1/1 -----
1/1 Os 50ms/step
                  - 0s 29ms/step
1/1 -
                — 0s 38ms/step
                  - 0s 49ms/step
                  - 0s 29ms/step
1/1 -
1/1 ---
      Os 31ms/step
1/1 -
                  - 0s 30ms/step
                  - 0s 32ms/step
1/1 -
1/1 0s 28ms/step
                  - 0s 28ms/step - loss: 0.0034
1/1 -
    0s 31ms/step - loss: 0.0035
1/1 -
              Os 35ms/step
1/1 -
      0s 33ms/step
1/1 -
      Os 30ms/step
1/1 -
1/1 ---- 0s 28ms/step
```

1/1					
1/1					
1/1	0s	35ms/step			
1/1	0s	31ms/step			
1/1	0s	27ms/step			
1/1	0s	25ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	25ms/step			
1/1	0S	36ms/step			
1/1					
1/1					
1/1					
1/1					
1/1			-	loss:	0.0031
1/1					
1/1	0s	29ms/step			
1/1	0s	30ms/step			
1/1	0s	27ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	28ms/step			
1/1					
1/1	95	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1			_	1000	0 0031
1/1	03	20113/3cep		1033.	0.0031
1/1				1033.	0.0020
1/1					
1/1					
1/1	05	2/ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	31ms/step			
1/1	US C	34ms/step			
1/1					
1/1					
1/1	US	38ms/step			
1/1	ØS	კგms/step			

```
1/1 -
               Os 27ms/step
                    - 0s 29ms/step
                   - 0s 27ms/step
1/1 ---
1/1 -
                    - 0s 34ms/step
                    - 0s 36ms/step - loss: 0.0331
1/1 -
                  --- 0s 30ms/step - loss: 0.0317
1/1 -----
1/1 -
                    - 0s 29ms/step
                    - 0s 25ms/step
                    - 0s 29ms/step
1/1 -
                    0s 30ms/step
     0s 29ms/step
1/1 -
1/1 -----
                    - 0s 41ms/step
                   - 0s 28ms/step
1/1 -
                    - 0s 36ms/step
1/1 -
                   - 0s 26ms/step
1/1 -
                    - 0s 37ms/step
1/1 -
1/1 -
                    - 0s 38ms/step
                  — 0s 32ms/step
1/1 ----
                    - 0s 32ms/step
1/1 -
1/1 -
                   - 0s 30ms/step
                    - 0s 40ms/step
1/1 -
                    - 0s 28ms/step
1/1 ———— 0s 30ms/step
                    - 0s 34ms/step
1/1 -
                   - 0s 40ms/step
1/1 -
1/1 ———— 0s 24ms/step
                    – 0s 36ms/step - loss: 0.0030
1/1 — 0s 27ms/step - 10ss: 0.0034
Epoch: 046/149 | Loss: 0.0034 | Episodes: 215 | Win count: 3 | Win rate: 0.064 | tim
e: 298.8 seconds
                    - 0s 28ms/step
1/1 -
1/1 -----
                  --- 0s 31ms/step
                    - 0s 31ms/step
                    - 0s 29ms/step
1/1 -
1/1 -----
                  Os 36ms/step
1/1 -
                    - 0s 38ms/step
1/1 -
                  — 0s 33ms/step
1/1 0s 26ms/step
                   - 0s 26ms/step
1/1 -
                    - 0s 29ms/step
1/1 -
                    - 0s 33ms/step
1/1 ----
1/1 Os 24ms/step
                    - 0s 27ms/step
1/1 -
                   — 0s 41ms/step
                    - 0s 29ms/step
                    - 0s 30ms/step
1/1 -
1/1 ---
                  Os 30ms/step
1/1 -
                    - 0s 28ms/step
                    - 0s 33ms/step
1/1 -
1/1 0s 29ms/step
                    - 0s 32ms/step - loss: 0.0024
1/1 -
    0s 39ms/step - loss: 0.0026
1/1 -
                    - 0s 32ms/step
1/1 -
           0s 38ms/step
1/1 -
                    - 0s 29ms/step
1/1 -
1/1 0s 32ms/step
```

1 /1	0-	24			
1/1					
1/1					
1/1	0s	28ms/step			
1/1	0s	26ms/step			
1/1	0s	30ms/step			
1/1	0s	29ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	27ms/step			
1/1					
1/1	0s	30ms/step			
1/1	0s	28ms/step			
1/1	0s	33ms/step			
1/1					
1/1			_	loss.	0 0040
1/1					
1/1	03	25ms/step	_	1033.	0.0033
1/1	05	35ms/step			
1/1	0s	25ms/step			
1/1					
1/1					
1/1	0s	31ms/step			
1/1	0s	31ms/step			
1/1	0s	40ms/step			
1/1					
1/1	95	34ms/sten			
1/1	95	29ms/step			
1/1	05	23ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	29ms/step			
1/1	0s	30ms/step			
1/1	0s	30ms/step	_	loss:	8.0960e-04
1/1	0s	35ms/step	_	loss:	7.5362e-04
1/1					
1/1					
1/1	05	27ms/step			
1/1	05	2/11/5/5tep			
1/1	05	24ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	27ms/step			
1/1	0s	30ms/sten			
1/1	05	27ms/sten			
1/1					
1/1	00	47mc/c+an			
1/1	05	20mc/c+o-			
1/1	95	z9ms/step			

```
1/1 -
            _____ 0s 27ms/step
     0s 30ms/step
1/1 ---
               —— 0s 28ms/step
1/1 -
                  - 0s 28ms/step
                  – 0s 32ms/step - loss: 0.0020
1/1 -
1/1 ——— 0s 31ms/step - loss: 0.0021
Epoch: 047/149 | Loss: 0.0021 | Episodes: 219 | Win count: 3 | Win rate: 0.062 | tim
e: 304.7 seconds
                Os 28ms/step
                 - 0s 28ms/step
1/1 -
1/1 os 25ms/step
1/1 Os 28ms/step
                —— 0s 32ms/step
1/1 ---
1/1
                  - 0s 30ms/step
                 - 0s 39ms/step
1/1 -
                  0s 46ms/step
1/1 -
1/1 -
                 - 0s 33ms/step
1/1 -----
               Os 36ms/step
                  - 0s 30ms/step
1/1 -
1/1 -
                 - 0s 36ms/step
                —— 0s 36ms/step
1/1 -
                  - 0s 32ms/step
1/1 ———— 0s 39ms/step
                  - 0s 26ms/step
1/1 -
                 -- 0s 25ms/step
1/1 -
1/1 ——— 0s 34ms/step
                 - 0s 31ms/step
                  - 0s 29ms/step
1/1 -
1/1 ——— 0s 39ms/step - loss: 0.0031
                  - 0s 38ms/step
1/1 -
                — 0s 29ms/step
                  - 0s 34ms/step
                  - 0s 30ms/step
1/1 -
1/1 0s 27ms/step
1/1 -
                 - 0s 28ms/step
1/1 -
                --- 0s 28ms/step
1/1 ---- 0s 31ms/step
                 - 0s 34ms/step
1/1 -
                  - 0s 28ms/step
1/1 -
                 - 0s 32ms/step
1/1 ----
1/1 Os 30ms/step
                  - 0s 30ms/step
1/1 -
                — 0s 35ms/step
                  - 0s 36ms/step
                  - 0s 25ms/step
1/1 -
1/1 -
          Os 33ms/step
1/1 -
                 - 0s 33ms/step
                 - 0s 39ms/step
1/1 -
1/1 0s 34ms/step
                 — 0s 36ms/step - loss: 0.0028
1/1 -
    0s 32ms/step - loss: 0.0026
1/1 -
              Os 32ms/step
1/1 -
1/1 -
         Os 25ms/step
      Os 31ms/step
1/1 -
1/1 ---- 0s 28ms/step
```

```
1/1 -
                     — 0s 26ms/step
                       - 0s 30ms/step
                       - 0s 41ms/step
1/1 -
1/1 -
                       - 0s 32ms/step
                       - 0s 27ms/step
1/1 -
                       - 0s 32ms/step
1/1 ----
1/1 -
                       - 0s 32ms/step
                       - 0s 27ms/step
                       - 0s 32ms/step
1/1 -
                       - 0s 32ms/step
                       - 0s 30ms/step
1/1 -
1/1 -----
                       - 0s 29ms/step
                       - 0s 31ms/step
1/1 -
                       - 0s 36ms/step
1/1 -
                       - 0s 30ms/step
1/1 -
                       - 0s 28ms/step
1/1 -
                       - 0s 53ms/step - loss: 0.0026
1/1 -
                     — 0s 31ms/step - loss: 0.0024
1/1 ---
                       - 0s 32ms/step
1/1 -
1/1 -
                       - 0s 25ms/step
                       - 0s 27ms/step
                       - 0s 29ms/step
1/1 -
1/1 ----
                       - 0s 28ms/step
                       - 0s 24ms/step
1/1 -
                       - 0s 26ms/step
1/1 -
                       - 0s 36ms/step
                       - 0s 36ms/step
                       - 0s 30ms/step
1/1 -
                       - 0s 26ms/step
1/1 -
1/1 -----
                     — 0s 27ms/step
                       - 0s 25ms/step
1/1 -
                       - 0s 31ms/step
                       - 0s 34ms/step
                       - 0s 24ms/step
1/1 -
                       - 0s 28ms/step
1/1 -
1/1 -
                       - 0s 28ms/step
1/1 -
                       - 0s 27ms/step
1/1 ---- 0s 30ms/step
                       — 0s 30ms/step - loss: 0.0038
1/1 -
                  Os 28ms/step - loss: 0.0034
Epoch: 048/149 | Loss: 0.0034 | Episodes: 223 | Win count: 3 | Win rate: 0.061 | tim
e: 310.8 seconds
1/1 -
                       - 0s 26ms/step
1/1 -
                     --- 0s 32ms/step
                       - 0s 30ms/step
                       - 0s 29ms/step
1/1 -
1/1 ---
                       - 0s 37ms/step
1/1 -
                       - 0s 39ms/step
                       - 0s 33ms/step
1/1 -
                       - 0s 28ms/step
1/1 -
                       - 0s 33ms/step
1/1 -
                       - 0s 31ms/step
                       - 0s 30ms/step
1/1 -
                    Os 38ms/step
1/1 -
                       - 0s 29ms/step
1/1 -
              0s 27ms/step
```

1/1	0s	25ms/step			
1/1					
1/1	0s	26ms/step			
1/1	0s	25ms/step			
1/1	0s	33ms/step			
1/1	0s	26ms/step			
1/1					
1/1			-	loss:	0.0021
1/1					
1/1					
1/1	0s	30ms/step			
1/1					
1/1	0s	31ms/step			
1/1					
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1	0s	32ms/step			
1/1					
1/1	0s	29ms/step			
1/1					
1/1 ———————————————————————————————————					
1/1					
1/1					
1/1					
1/1	05	36ms/step			
		20113/3tep			
1/1	ac			1000	0 0025
1/1	0s 0s	32ms/step	-	loss:	0.0035
1/1	0s	32ms/step 31ms/step	- -	loss:	0.0035 0.0035
1/1	0s 0s	32ms/step 31ms/step 29ms/step	-	loss:	0.0035 0.0035
1/1 ———————————————————————————————————	0s 0s 0s	32ms/step 31ms/step 29ms/step 26ms/step	-	loss:	0.0035 0.0035
1/1 ———————————————————————————————————	0s 0s 0s 0s	32ms/step 31ms/step 29ms/step 26ms/step 40ms/step	-	loss:	0.0035 0.0035
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s	32ms/step 31ms/step 29ms/step 26ms/step 40ms/step 29ms/step	-	loss:	0.0035 0.0035
1/1 ———————————————————————————————————	0s 0s 0s 0s 0s	32ms/step 31ms/step 29ms/step 26ms/step 40ms/step 29ms/step 27ms/step	-	loss:	0.0035 0.0035
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s 0s	32ms/step 31ms/step 29ms/step 26ms/step 40ms/step 29ms/step 27ms/step 40ms/step 31ms/step	-	loss:	0.0035 0.0035
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s 0s 0s	32ms/step 31ms/step 29ms/step 26ms/step 40ms/step 29ms/step 27ms/step 40ms/step 31ms/step 25ms/step	-	loss:	0.0035 0.0035
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s 0s 0s	32ms/step 31ms/step 29ms/step 26ms/step 40ms/step 29ms/step 27ms/step 40ms/step 31ms/step 25ms/step 34ms/step	-	loss:	0.0035 0.0035
1/1	0s 0s 0s 0s 0s 0s 0s 0s	32ms/step 31ms/step 29ms/step 26ms/step 40ms/step 27ms/step 40ms/step 31ms/step 25ms/step 34ms/step 30ms/step	-	loss:	0.0035 0.0035
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s	32ms/step 31ms/step 29ms/step 26ms/step 40ms/step 29ms/step 27ms/step 40ms/step 31ms/step 35ms/step 36ms/step 36ms/step 36ms/step	-	loss:	0.0035 0.0035
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	32ms/step 31ms/step 29ms/step 26ms/step 40ms/step 29ms/step 27ms/step 40ms/step 31ms/step 34ms/step 30ms/step 32ms/step 26ms/step	-	loss:	0.0035 0.0035
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	32ms/step 31ms/step 29ms/step 26ms/step 40ms/step 29ms/step 27ms/step 40ms/step 31ms/step 35ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step	-	loss:	0.0035 0.0035
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	32ms/step 31ms/step 29ms/step 26ms/step 40ms/step 27ms/step 40ms/step 31ms/step 35ms/step 34ms/step 36ms/step 36ms/step 37ms/step 37ms/step	-	loss:	0.0035 0.0035
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	32ms/step 31ms/step 29ms/step 26ms/step 40ms/step 29ms/step 27ms/step 40ms/step 31ms/step 35ms/step 36ms/step 36ms/step 36ms/step 37ms/step 37ms/step 32ms/step 37ms/step	-	loss:	0.0035 0.0035
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	32ms/step 31ms/step 29ms/step 26ms/step 40ms/step 29ms/step 27ms/step 31ms/step 31ms/step 34ms/step 30ms/step 32ms/step 33ms/step 37ms/step 32ms/step 32ms/step 32ms/step 32ms/step	-	loss:	0.0035 0.0035
1/1	0s 0	32ms/step 31ms/step 29ms/step 26ms/step 40ms/step 29ms/step 27ms/step 40ms/step 31ms/step 31ms/step 34ms/step 30ms/step 32ms/step 32ms/step 37ms/step 37ms/step 32ms/step 36ms/step 36ms/step	-	loss:	0.0035 0.0035
1/1	0s 0	32ms/step 31ms/step 29ms/step 26ms/step 40ms/step 27ms/step 40ms/step 31ms/step 31ms/step 34ms/step 34ms/step 32ms/step 32ms/step 33ms/step 37ms/step 32ms/step 32ms/step 37ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step	-	loss:	0.0035 0.0035
1/1	0s 0	32ms/step 31ms/step 29ms/step 26ms/step 29ms/step 27ms/step 27ms/step 31ms/step 31ms/step 35ms/step 34ms/step 36ms/step 32ms/step 37ms/step 32ms/step 37ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 28ms/step 29ms/step 29ms/step	-	loss:	0.0035 0.0035
1/1	0s 0	32ms/step 31ms/step 29ms/step 26ms/step 40ms/step 29ms/step 27ms/step 31ms/step 31ms/step 34ms/step 34ms/step 32ms/step 32ms/step 33ms/step 37ms/step 32ms/step 32ms/step 32ms/step 31ms/step 31ms/step		loss:	0.0035
1/1	0s 0	32ms/step 31ms/step 29ms/step 26ms/step 40ms/step 29ms/step 27ms/step 31ms/step 31ms/step 34ms/step 32ms/step 32ms/step 33ms/step 37ms/step 32ms/step 32ms/step 32ms/step 32ms/step 31ms/step 36ms/step 29ms/step 36ms/step 36ms/step	_	loss:	0.0035
1/1	0s 0	32ms/step 31ms/step 29ms/step 26ms/step 29ms/step 27ms/step 40ms/step 31ms/step 31ms/step 34ms/step 32ms/step 36ms/step 29ms/step 29ms/step 36ms/step 36ms/step 36ms/step	_	loss:	0.0035
1/1	0s 0	32ms/step 31ms/step 29ms/step 26ms/step 29ms/step 27ms/step 31ms/step 31ms/step 34ms/step 34ms/step 32ms/step 32ms/step 33ms/step 33ms/step 32ms/step 37ms/step 32ms/step 32ms/step 31ms/step 36ms/step 29ms/step 29ms/step 36ms/step 39ms/step	_	loss:	0.0035
1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1	0s 0	32ms/step 31ms/step 29ms/step 26ms/step 29ms/step 29ms/step 27ms/step 31ms/step 31ms/step 35ms/step 34ms/step 36ms/step 32ms/step 36ms/step 36ms/step 28ms/step 29ms/step 36ms/step 29ms/step 36ms/step 29ms/step 36ms/step 36ms/step 29ms/step 36ms/step 36ms/step	_	loss:	0.0035
1/1	0s 0	32ms/step 31ms/step 29ms/step 26ms/step 40ms/step 29ms/step 27ms/step 31ms/step 31ms/step 34ms/step 34ms/step 32ms/step 36ms/step 29ms/step 29ms/step 36ms/step 29ms/step 36ms/step 26ms/step 36ms/step	_	loss:	0.0035

```
1/1 -
                    --- 0s 47ms/step
                      - 0s 33ms/step
                      - 0s 29ms/step
1/1 -
1/1 -
                       - 0s 38ms/step
                       - 0s 35ms/step
1/1 -
                       - 0s 31ms/step
1/1 ----
1/1 -
                       - 0s 26ms/step
                       - 0s 30ms/step
                       - 0s 29ms/step
1/1 -
                       - 0s 35ms/step
                       - 0s 30ms/step
1/1 -
                       - 0s 31ms/step
1/1 -----
                      - 0s 38ms/step
1/1 -
                      - 0s 32ms/step
1/1 -
                      - 0s 27ms/step
1/1 -
                       - 0s 28ms/step
1/1 -
                      - 0s 29ms/step - loss: 0.0045
1/1 -
                     — 0s 32ms/step - loss: 0.0041
1/1 ---
                      - 0s 26ms/step
1/1 -
1/1 -
                      - 0s 29ms/step
                      - 0s 30ms/step
                      - 0s 33ms/step
1/1 -
1/1 -----
                     — 0s 50ms/step
                      - 0s 31ms/step
1/1 -
                      - 0s 28ms/step
1/1 -
                  Os 27ms/step
                      - 0s 31ms/step
                       - 0s 36ms/step
1/1 -
                      - 0s 32ms/step
1/1 -
1/1 -----
                     — 0s 31ms/step
                      - 0s 26ms/step
1/1 -
                      - 0s 28ms/step
                       - 0s 30ms/step
                       - 0s 29ms/step
1/1 -
                      — 0s 33ms/step
1/1 -
1/1 -
                      - 0s 29ms/step
1/1 -
                      - 0s 27ms/step
1/1 0s 36ms/step
                      — 0s 34ms/step - loss: 0.0343
1/1 -
                 0s 49ms/step - loss: 0.0336
Epoch: 049/149 | Loss: 0.0336 | Episodes: 228 | Win count: 3 | Win rate: 0.060 | tim
e: 318.5 seconds
1/1 -----
                      - 0s 38ms/step
1/1 -
                    --- 0s 33ms/step
                       - 0s 31ms/step
                       - 0s 33ms/step
1/1 -
1/1 ---
                       - 0s 29ms/step
1/1 -
                      - 0s 26ms/step
                       - 0s 26ms/step
1/1 -
                      - 0s 25ms/step
1/1 -
                      - 0s 31ms/step
     Os 31ms/step
1/1 -
                       - 0s 28ms/step
1/1 -
                   Os 30ms/step
1/1 -
                      - 0s 31ms/step
1/1 -
             0s 32ms/step
```

1/1	95	26ms/sten			
1/1					
1/1					
1/1	as	30ms/step			
1/1					
1/1	05	20ms/step			
1/1				1000	0 0024
1/1					
1/1			-	1022:	0.0025
1/1					
1/1					
1/1	05	35ms/step			
1/1	05	29ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	27ms/step			
1/1					
1/1	0s	35ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	37ms/step	-	loss:	0.0028
1/1	0s	28ms/step	- -	loss:	0.0028 0.0031
1/1	0s 0s	28ms/step 28ms/step	-	loss:	0.0028 0.0031
1/1 ———————————————————————————————————	0s 0s 0s	28ms/step 28ms/step 23ms/step	-	loss:	0.0028 0.0031
1/1 ———————————————————————————————————	0s 0s 0s 0s	28ms/step 28ms/step 23ms/step 28ms/step	-	loss:	0.0028 0.0031
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s	28ms/step 28ms/step 23ms/step 28ms/step 34ms/step	-	loss:	0.0028 0.0031
1/1 ———————————————————————————————————	0s 0s 0s 0s 0s	28ms/step 28ms/step 23ms/step 28ms/step 34ms/step 30ms/step	-	loss:	0.0028 0.0031
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s 0s	28ms/step 28ms/step 23ms/step 28ms/step 34ms/step 30ms/step 30ms/step	-	loss:	0.0028 0.0031
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s 0s	28ms/step 28ms/step 23ms/step 28ms/step 34ms/step 30ms/step 30ms/step 33ms/step	-	loss:	0.0028 0.0031
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s 0s 0s	28ms/step 28ms/step 23ms/step 28ms/step 34ms/step 30ms/step 30ms/step 33ms/step 32ms/step	-	loss:	0.0028 0.0031
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s 0s 0s	28ms/step 28ms/step 23ms/step 28ms/step 34ms/step 30ms/step 30ms/step 33ms/step 32ms/step 36ms/step	-	loss:	0.0028 0.0031
1/1	0s 0s 0s 0s 0s 0s 0s 0s	28ms/step 28ms/step 23ms/step 28ms/step 34ms/step 30ms/step 30ms/step 32ms/step 32ms/step 34ms/step	-	loss:	0.0028
1/1 —	0s 0s 0s 0s 0s 0s 0s 0s 0s	28ms/step 28ms/step 23ms/step 28ms/step 34ms/step 30ms/step 30ms/step 33ms/step 32ms/step 36ms/step 34ms/step 27ms/step	-	loss:	0.0028
1/1 —	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	28ms/step 28ms/step 23ms/step 28ms/step 34ms/step 30ms/step 30ms/step 32ms/step 36ms/step 34ms/step 27ms/step 32ms/step	-	loss:	0.0028
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	28ms/step 28ms/step 23ms/step 28ms/step 34ms/step 30ms/step 30ms/step 32ms/step 36ms/step 34ms/step 27ms/step 29ms/step	-	loss:	0.0028
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	28ms/step 28ms/step 23ms/step 28ms/step 34ms/step 30ms/step 30ms/step 32ms/step 32ms/step 34ms/step 27ms/step 29ms/step 46ms/step	-	loss:	0.0028
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	28ms/step 28ms/step 23ms/step 28ms/step 34ms/step 30ms/step 30ms/step 33ms/step 32ms/step 34ms/step 27ms/step 29ms/step 46ms/step 27ms/step	-	loss:	0.0028
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	28ms/step 28ms/step 23ms/step 28ms/step 34ms/step 30ms/step 30ms/step 33ms/step 32ms/step 34ms/step 27ms/step 29ms/step 46ms/step 27ms/step 34ms/step		loss:	0.0028
1/1	0s 0	28ms/step 28ms/step 23ms/step 28ms/step 34ms/step 30ms/step 30ms/step 32ms/step 32ms/step 34ms/step 27ms/step 29ms/step 29ms/step 27ms/step 34ms/step 34ms/step 34ms/step 35ms/step 36ms/step 36ms/step	-	loss:	0.0028
1/1	0s 0	28ms/step 28ms/step 23ms/step 28ms/step 34ms/step 30ms/step 30ms/step 32ms/step 34ms/step 27ms/step 29ms/step 29ms/step 27ms/step 27ms/step 34ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step	-	loss:	0.0028
1/1	0s 0	28ms/step 28ms/step 23ms/step 28ms/step 34ms/step 30ms/step 30ms/step 33ms/step 32ms/step 34ms/step 27ms/step 29ms/step 29ms/step 27ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step		loss:	0.0028
1/1	0s 0	28ms/step 28ms/step 28ms/step 28ms/step 34ms/step 30ms/step 30ms/step 32ms/step 36ms/step 34ms/step 27ms/step 29ms/step 29ms/step 27ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step		loss:	0.0031
1/1	0s 0	28ms/step 28ms/step 28ms/step 34ms/step 30ms/step 30ms/step 30ms/step 32ms/step 36ms/step 34ms/step 27ms/step 29ms/step 29ms/step 29ms/step 34ms/step 34ms/step 34ms/step 34ms/step 35ms/step 36ms/step	_	loss:	0.0031
1/1	0s 0	28ms/step 28ms/step 28ms/step 34ms/step 30ms/step 30ms/step 30ms/step 32ms/step 34ms/step 27ms/step 29ms/step 29ms/step 27ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step	_	loss:	0.0031
1/1	0s 0	28ms/step 28ms/step 28ms/step 28ms/step 34ms/step 30ms/step 30ms/step 33ms/step 32ms/step 34ms/step 27ms/step 29ms/step 29ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step	_	loss:	0.0031
1/1	0s 0	28ms/step 28ms/step 28ms/step 34ms/step 30ms/step 30ms/step 33ms/step 32ms/step 36ms/step 34ms/step 27ms/step 29ms/step 29ms/step 27ms/step 34ms/step 34ms/step 34ms/step 31ms/step 31ms/step 31ms/step 28ms/step 31ms/step 31ms/step 39ms/step	_	loss:	0.0031
1/1	0s 0	28ms/step 28ms/step 28ms/step 34ms/step 30ms/step 30ms/step 33ms/step 32ms/step 34ms/step 34ms/step 27ms/step 29ms/step 29ms/step 34ms/step 34ms/step 29ms/step 34ms/step 35ms/step	_	loss:	0.0031

1/1					
1/1					
1/1					
1/1					
1/1	0s	28ms/step			
1/1					
1/1	0s	27ms/step			
1/1	0s	27ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	34ms/step			
1/1					
1/1	0s	30ms/step			
1/1	0s	32ms/step			
1/1					
1/1			-	loss:	0.0031
1/1					
1/1					
1/1	0s	26ms/step			
1/1					
1/1	0s	29ms/step			
1/1	0s	24ms/step			
1/1					
1/1	0s	27ms/step			
1/1	0s	32ms/step			
1/1					
1/1	0s	45ms/step			
1/1	0s	31ms/step			
1/1	0s	27ms/step			
1/1	0s	30ms/step			
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	33ms/step	-	loss:	0.0040
1/1			-	loss:	0.0040
1/1					
1/1					
1/1					
1/1					
1/1	0s	27ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	— 0s	34ms/step			
1/1	— 0s	31ms/step			
1/1					
1/1	— 0s	30ms/step			

```
1/1 -
               Os 29ms/step
                   - 0s 31ms/step
                   - 0s 32ms/step
1/1 ---
1/1 -
                   - 0s 27ms/step
                   - 0s 34ms/step - loss: 0.0049
1/1 -
               ---- 0s 34ms/step - loss: 0.0044
1/1 ----
                   - 0s 34ms/step
1/1 -
                   - 0s 29ms/step
                   - 0s 28ms/step
1/1 -
                   - 0s 27ms/step
               Os 40ms/step
1/1 -
1/1 -----
                   - 0s 30ms/step
                   - 0s 29ms/step
1/1 -
                   - 0s 36ms/step
1/1 -
                   - 0s 40ms/step
1/1 -
                   0s 47ms/step
1/1 -
1/1 -
                   - 0s 39ms/step
                  — 0s 31ms/step
1/1 ----
                   - 0s 40ms/step
1/1 -
1/1 -
                   - 0s 44ms/step
                  — 0s 32ms/step
1/1 -
                   - 0s 29ms/step
1/1 ———— 0s 27ms/step
                   - 0s 30ms/step
1/1 -
                   - 0s 31ms/step
1/1 -
          0s 33ms/step
                   - 0s 31ms/step - loss: 0.0371
    0s 32ms/step - loss: 0.0355
1/1 -
1/1 -----
                   - 0s 27ms/step
1/1 0s 29ms/step
                   - 0s 39ms/step
1/1 -
                  — 0s 33ms/step
                   - 0s 31ms/step
                   - 0s 28ms/step
1/1 -
               Os 25ms/step
1/1 -----
1/1 -
                   - 0s 26ms/step
1/1 -
                  — 0s 25ms/step
1/1 ---- 0s 31ms/step
                   - 0s 29ms/step
1/1 -
                   - 0s 27ms/step
1/1 -
                   - 0s 35ms/step
1/1 -
1/1 0s 33ms/step
                   - 0s 30ms/step
1/1 -
                   — 0s 28ms/step
                   - 0s 25ms/step
                   - 0s 31ms/step
1/1 -
      0s 32ms/step
1/1 ----
                Os 31ms/step
1/1 -
1/1 -
                   - 0s 44ms/step - loss: 0.0359
1/1 ———— 0s 45ms/step - loss: 0.0333
Epoch: 050/149 | Loss: 0.0333 | Episodes: 236 | Win count: 3 | Win rate: 0.059 | tim
e: 330.7 seconds
1/1 0s 32ms/step
1/1 -
      Os 29ms/step
1/1 — 0s 29ms/step
1/1 ...... 0s 25ms/step
```

1/1	۵s	27ms/sten			
1/1					
1/1					
1/1	05	26ms/step			
1/1	05	3/ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	28ms/step			
1/1					
1/1	0s	32ms/step			
1/1					
1/1					
1/1	0s	26ms/step			
1/1	0s	41ms/step	-	loss:	0.0029
1/1	0s	36ms/step	-	loss:	0.0043
1/1					
1/1	0s	43ms/step			
1/1					
1/1	0s	28ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	33ms/step			
1/1	05	30ms/step			
1/1	05	34ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	36ms/step			
1/1	05	34ms/step		-	
1/1	0s	39ms/step	-	loss:	0.0024
1/1			-	loss:	0.0031
1/1					
1/1					
1/1	0s	30ms/step			
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	28ms/step			
1/1	0s	31ms/step			
1/1					
1/1					
1/1	0s	28ms/step			
1/1	0s	29ms/step			

1/1	95	34ms/sten
1/1		
1/1		
1/1	05	35 m s / s t s m
1/1	05	25ms/step
1/1	0s	42ms/step - loss: 0.0276
		34ms/step - loss: 0.0262
1/1		
1/1		
1/1		
1/1		
1/1	0s	29ms/step
1/1	0s	25ms/step
1/1		
1/1		
1/1		
1/1		
1/1		
1/1		
1/1	05	34ms/step
1/1		
1/1		
1/1		
1/1		
1/1		
1/1		
1/1		
1/1	0s	39ms/step - loss: 0.0048
1/1	0s	36ms/step - loss: 0.0059
1/1		
1/1		
1/1		
1/1		
1/1		
1/1		
1/1	0s	31ms/step
1/1	0s	30ms/step
1/1	0s	33ms/step
1/1	0s	30ms/step
1/1	0s	28ms/step
1/1		
1/1		
1/1		
1/1		
1/1	95	32ms/sten
1/1		
1/1		
1/1		
1/1		
		31ms/step - loss: 0.0012
		38ms/step - 10ss: 0.0012
1/1	05	30ms/step - 1055; 0.0014
1/1	05	20115/Step
1/1		
1/1		
1/1		
1/1	05	25ms/step
1/1	ØS	∠8ms/step

1/1	0s	27ms/step			
1/1	0s	41ms/step			
1/1	0s	33ms/step			
1/1	0s	32ms/step			
1/1	0s	34ms/step			
1/1	0s	29ms/step			
1/1	0s	27ms/step			
1/1	0s	33ms/step			
1/1	0s	34ms/step			
			_	loss:	0.0036
					0.0002
1/1	05	29ms/step			
1/1	 03	26ms/step			
1/1	03	20113/3tep			
1/1	05	321115/Step			
1/1	05	20ms/step			
1/1	05	2/ms/step			
1/1	05	32ms/step			
1/1	05	33ms/step			
1/1	05	25ms/step			
1/1	05	2/ms/step			
1/1	05	31ms/step			
1/1	05	32ms/step			
	 05	28ms/step			
1/1	05	28ms/step			
1/1	0s	27ms/step		_	
1/1	 05	41ms/step	-	loss:	0.0250
			-	loss:	0.0245
1/1	0s	31ms/step			
1/1	0s	25ms/step			
1/1	0s	28ms/step			
1/1	0s	31ms/step			
1/1	0s	36ms/step			
1/1	0s	32ms/step			
1/1	0s	32ms/step			
1/1	0s	25ms/step			
1/1	0s	37ms/step			
1/1	0s	34ms/step			
1/1	0s	41ms/step			
1/1	 0s	32ms/step			
1/1	0s	34ms/step			
1/1	0s	30ms/step			

```
1/1 -
             Os 30ms/step
               Os 41ms/step
                OS 34ms/step - loss: 0.0069
1/1 ---
1/1 -
                   - 0s 30ms/step - loss: 0.0068
                   - 0s 29ms/step
1/1 -
         0s 29ms/step
1/1 -----
                  - 0s 28ms/step
1/1 -
                  - 0s 37ms/step
                  - 0s 29ms/step
1/1 -
                  - 0s 44ms/step
    0s 30ms/step
1/1 -
1/1 0s 26ms/step
                 —— 0s 32ms/step
1/1 -
                  - 0s 27ms/step
1/1 -
                  -- 0s 26ms/step
1/1 -
                   0s 35ms/step
1/1 -
1/1 -
                  - 0s 24ms/step
                Os 26ms/step
1/1 ----
                  - 0s 40ms/step
1/1 -
1/1 -
                  -- 0s 42ms/step
                Os 37ms/step
1/1 -
                  - 0s 29ms/step
1/1 ———— 0s 29ms/step
          0s 34ms/step
1/1 -
               Os 51ms/step - loss: 0.0029
1/1 -
1/1 ---- 0s 37ms/step - loss: 0.0028
Epoch: 051/149 | Loss: 0.0028 | Episodes: 245 | Win count: 3 | Win rate: 0.058 | tim
e: 344.4 seconds
                 — 0s 29ms/step
1/1 -----
1/1 ——— 0s 31ms/step
                  - 0s 31ms/step
1/1 -
                —— 0s 37ms/step
                  - 0s 26ms/step
                   - 0s 25ms/step
1/1 -
1/1 0s 29ms/step
1/1 -
                 — 0s 32ms/step
1/1 -
                --- 0s 27ms/step
1/1 ———— 0s 27ms/step
                  — 0s 32ms/step
1/1 -
                   - 0s 31ms/step
1/1 -
      Os 45ms/step
1/1 ----
1/1 Os 30ms/step
                  - 0s 30ms/step
1/1 -
               —— 0s 30ms/step
                   - 0s 26ms/step
                  - 0s 28ms/step
1/1 -
          0s 27ms/step
1/1 ---
1/1 -
                  - 0s 30ms/step
                  — 0s 30ms/step - loss: 0.0028
1/1 -
1/1 ——— 0s 32ms/step - loss: 0.0028
1/1 -
                  - 0s 26ms/step
1/1 ———— 0s 27ms/step
               Os 46ms/step
1/1 -
      0s 34ms/step
1/1 -
      Os 33ms/step
1/1 -
1/1 ---- 0s 42ms/step
```

```
1/1 -
                    Os 35ms/step
                      - 0s 48ms/step
                      - 0s 31ms/step
1/1 -
1/1 -
                       - 0s 29ms/step
                       - 0s 32ms/step
1/1 -
                       - 0s 35ms/step
1/1 ----
1/1 -
                       - 0s 25ms/step
                       - 0s 29ms/step
                       - 0s 35ms/step
1/1 -
                      - 0s 28ms/step
                       - 0s 30ms/step
1/1 -
1/1 -----
                       - 0s 32ms/step
                      - 0s 29ms/step
1/1 -
                      - 0s 46ms/step
1/1 -
                      - 0s 28ms/step - loss: 0.0064
1/1 -
                       - 0s 32ms/step - loss: 0.0057
1/1 -
1/1 -
                      - 0s 29ms/step
1/1 ---
                      — 0s 36ms/step
                      - 0s 36ms/step
1/1 -
1/1 -
                      - 0s 30ms/step
                      - 0s 28ms/step
                      - 0s 32ms/step
1/1 -
1/1 -----
                     —— 0s 27ms/step
                      - 0s 26ms/step
1/1 -
                      - 0s 25ms/step
1/1 -
                  Os 29ms/step
                      - 0s 28ms/step
                       - 0s 33ms/step
1/1 -
1/1 -----
                      - 0s 30ms/step
                     — 0s 28ms/step
1/1 -----
                       - 0s 38ms/step
1/1 -
                      0s 38ms/step
                       - 0s 38ms/step
                       - 0s 31ms/step
1/1 -
1/1 -----
                    —— 0s 33ms/step
1/1 -----
                   Os 35ms/step
1/1 — Os 39ms/step - loss: 0.0033
1/1 — Os 27ms/step - loss: 0.0032
Epoch: 052/149 | Loss: 0.0032 | Episodes: 248 | Win count: 3 | Win rate: 0.057 | tim
e: 349.0 seconds
1/1 -----
                     — 0s 31ms/step
1/1 0s 24ms/step
                      - 0s 29ms/step
1/1 -
                      — 0s 28ms/step
                       - 0s 35ms/step
                       - 0s 33ms/step
1/1 -
1/1 -
                     — 0s 33ms/step
1/1 -
                      - 0s 36ms/step
                       - 0s 32ms/step
1/1 -
                      - 0s 32ms/step
1/1 -
                      - 0s 32ms/step
1/1 -
                       - 0s 32ms/step
                       - 0s 29ms/step
1/1 -
                  Os 39ms/step
1/1 -
                      - 0s 32ms/step
1/1 -
             Os 35ms/step
```

1/1	۵c	28mc/stan			
1/1					
1/1					
1/1	05	25ms/step			
				,	0 0050
1/1	0s	31ms/step	-	loss:	0.0052
1/1			-	loss:	0.0043
1/1					
1/1					
1/1					
1/1					
1/1	0s	26ms/step			
1/1					
1/1	0s	27ms/step			
1/1					
1/1	0s	29ms/step			
1/1					
1/1					
1/1					
1/1	0s	26ms/step			
1/1					
1/1	0s	36ms/step			
1/1	0s	29ms/step			
1/1	0s	32ms/step			
1/1	0s	29ms/step			
1/1					
1/1					
1/1			_	loss:	0.0272
1/1	0s	35ms/step	_	loss:	0.0277
1/1					
1/1	0s	32ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	27ms/step			
1/1	05	28ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	25ms/step			
1/1					
1/1	OS OS	42ms/step			
1/1					
1/1					
1/1			_	1000	0 0018
1/1					
1/1			_	1033.	0.0059
1/1	05	20mc/c+0n			
1/1					
1/1	05	24ms/step			
1/1					
1/1	(1)	34m5/5LED			
1/1	00	30mc/c+on			

```
1/1 -
                 Os 30ms/step
                      - 0s 37ms/step
                      - 0s 28ms/step
1/1 -
1/1 -
                      - 0s 31ms/step
                      - 0s 32ms/step
1/1 -
                      - 0s 37ms/step
1/1 ----
1/1 -
                      - 0s 34ms/step
                      - 0s 34ms/step
                      - 0s 33ms/step
1/1 -
                      - 0s 29ms/step
                      - 0s 31ms/step
1/1 -
1/1 -----
                      - 0s 36ms/step
                      - 0s 30ms/step
1/1 -
                      - 0s 33ms/step
1/1 -
                      – 0s 31ms/step - loss: 0.0029
1/1 -
                      - 0s 29ms/step - loss: 0.0031
1/1 -
1/1 -
                      - 0s 32ms/step
1/1 ----
                    — 0s 33ms/step
                      - 0s 31ms/step
1/1 -
1/1 -
                      - 0s 30ms/step
                      - 0s 35ms/step
1/1 -
                      - 0s 36ms/step
1/1 -----
                    —— 0s 28ms/step
                      - 0s 28ms/step
1/1 -
                      - 0s 38ms/step
1/1 -
                 Os 30ms/step
                      - 0s 27ms/step
                      - 0s 28ms/step
1/1 -
1/1 -----
                      - 0s 26ms/step
                    Os 29ms/step
1/1 -----
                      - 0s 39ms/step
1/1 -
                     — 0s 35ms/step
                      - 0s 32ms/step
                      - 0s 44ms/step
1/1 -
1/1 -----
                   Os 35ms/step
1/1 -----
                      - 0s 29ms/step
1/1 — Os 36ms/step - loss: 0.0018
1/1 — Os 36ms/step - loss: 0.0019
Epoch: 053/149 | Loss: 0.0019 | Episodes: 253 | Win count: 3 | Win rate: 0.056 | tim
e: 356.6 seconds
1/1 -----
                    — 0s 35ms/step
1/1 0s 45ms/step
                      - 0s 29ms/step
1/1 -
                     — 0s 26ms/step
                      - 0s 31ms/step
                      - 0s 25ms/step
1/1 -
1/1 -
                    — 0s 29ms/step
1/1 -
                      - 0s 38ms/step
                      - 0s 35ms/step
1/1 -
                   —— 0s 43ms/step
1/1 -
                      - 0s 31ms/step
     Os 29ms/step
1/1 -
                      - 0s 31ms/step
1/1 -
1/1 -
                 ----- 0s 27ms/step
                      - 0s 31ms/step
1/1 -
            0s 29ms/step
```

1/1					
1/1					
1/1	0s	30ms/step			
1/1					
1/1					
1/1			-	loss:	0.0025
1/1					
1/1					
1/1					
1/1					
1/1	0s	28ms/step			
1/1					
1/1	0s	26ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	28ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1				1000	0 0022
1/1					
1/1			-	1055.	0.0025
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1			-	loss:	0.0019
1/1	0s	26ms/step			
1/1	0s	29ms/step			
1/1					
1/1					
1/1	0s	32ms/step			
1/1	0s	32ms/step			

```
1/1 -
              Os 30ms/step
                   - 0s 31ms/step
1/1 ---
                   - 0s 27ms/step
1/1 -
                   - 0s 32ms/step
                   - 0s 33ms/step
1/1 -
                  — 0s 30ms/step
1/1 ----
1/1 -
                   - 0s 35ms/step
                   - 0s 41ms/step
                   - 0s 49ms/step
                   - 0s 39ms/step
1/1 -
               0s 35ms/step
1/1 -
1/1 0s 33ms/step
                Os 31ms/step
1/1 -
1/1 ---- 0s 30ms/step
                  — 0s 42ms/step - loss: 0.0021
1/1 -
    0s 35ms/step - loss: 0.0022
Epoch: 054/149 | Loss: 0.0022 | Episodes: 257 | Win count: 3 | Win rate: 0.055 | tim
e: 362.8 seconds
                  — 0s 30ms/step
1/1 -----
1/1 -
                  --- 0s 38ms/step
               Os 34ms/step
1/1 -
                   - 0s 51ms/step
1/1 ———— 0s 38ms/step
                   - 0s 57ms/step
1/1 -
                   - 0s 40ms/step
1/1 -
1/1 _____ 0s 36ms/step
                   - 0s 34ms/step
                   - 0s 32ms/step
1/1 -
1/1 -----
                   - 0s 30ms/step
1/1 0s 29ms/step
                   - 0s 29ms/step
1/1 -
                  — 0s 28ms/step
                   - 0s 32ms/step
                   - 0s 31ms/step
1/1 -
             0s 33ms/step
1/1 -----
1/1 -
                   - 0s 28ms/step
1/1 -
                 --- 0s 29ms/step
1/1 ———— 0s 27ms/step
                   — 0s 29ms/step - loss: 0.0031
1/1 -
                   - 0s 30ms/step - loss: 0.0030
1/1 -
               0s 29ms/step
1/1 ----
1/1 0s 32ms/step
                   - 0s 33ms/step
1/1 -
                  — 0s 33ms/step
                   - 0s 31ms/step
                   - 0s 29ms/step
1/1 -
1/1 ---
                 Os 28ms/step
1/1 -
                   - 0s 26ms/step
                   - 0s 27ms/step
1/1 -
               Os 24ms/step
1/1 -
                   - 0s 30ms/step
    Os 28ms/step
1/1 -
                   - 0s 26ms/step
1/1 -
          Os 44ms/step
1/1 -
                   - 0s 31ms/step
1/1 -
          0s 33ms/step
```

```
1/1 -
               Os 36ms/step
                   - 0s 27ms/step
                   - 0s 25ms/step
1/1 ---
1/1 -
                    - 0s 28ms/step
                    - 0s 43ms/step - loss: 0.0029
1/1 -
                 —— 0s 33ms/step - loss: 0.0029
1/1 ----
                   - 0s 26ms/step
1/1 -
                   - 0s 28ms/step
                    - 0s 34ms/step
1/1 -
                    - 0s 31ms/step
               Os 53ms/step
1/1 -
                    - 0s 29ms/step
1/1 -----
                   - 0s 35ms/step
1/1 -
                    - 0s 31ms/step
1/1 -
1/1 -
                   - 0s 30ms/step
                    0s 34ms/step
1/1 -
1/1 -
                    - 0s 30ms/step
                  Os 29ms/step
1/1 ---
                    - 0s 34ms/step
1/1 -
1/1 -
                   - 0s 29ms/step
                  Os 28ms/step
1/1 -
                    - 0s 37ms/step
1/1 ———— 0s 37ms/step
                    - 0s 32ms/step
1/1 -
                   - 0s 28ms/step
1/1 -
           0s 30ms/step
                   — 0s 30ms/step - loss: 0.0033
                    - 0s 32ms/step - loss: 0.0032
1/1 -
1/1 -----
                   - 0s 31ms/step
1/1 Os 27ms/step
                    - 0s 32ms/step
1/1 -
                   — 0s 26ms/step
                    - 0s 32ms/step
                    - 0s 28ms/step
1/1 -
1/1 -----
               0s 26ms/step
1/1 -
                   - 0s 28ms/step
1/1 -
                  -- 0s 30ms/step
1/1 0s 34ms/step
                   - 0s 28ms/step
1/1 -
                    - 0s 30ms/step
1/1 -
                   - 0s 32ms/step
1/1 -
1/1 0s 32ms/step
                    - 0s 31ms/step
1/1 -
                   — 0s 30ms/step
                    - 0s 26ms/step
                    - 0s 29ms/step
1/1 -
       0s 28ms/step
1/1 ---
                 Os 24ms/step
1/1 -
1/1 -
                   — 0s 31ms/step - loss: 0.0038
1/1 ———— 0s 30ms/step - loss: 0.0034
Epoch: 055/149 | Loss: 0.0034 | Episodes: 261 | Win count: 3 | Win rate: 0.054 | tim
e: 368.8 seconds
1/1 -----
                Os 29ms/step
1/1 -
      Os 32ms/step
1/1 — 0s 29ms/step
1/1 ---- 0s 41ms/step
```

1/1	0.0	24ms/s+on			
1/1					
1/1	0s	39ms/step			
1/1					
1/1	0s	34ms/step			
1/1	0s	28ms/step			
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	05	20ms/step			
1/1	05	32ms/step			
1/1					
1/1					
1/1					
1/1			-	loss:	0.0021
1/1					
1/1	0s	33ms/step			
1/1	0s	35ms/step			
1/1	0s	32ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	31ms/step			
1/1	<b>0</b> S	33ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	41ms/step			
1/1	0s	29ms/step			
1/1	0s	36ms/step			
1/1			_	loss:	0.0029
1/1	05	40ms/step	_	loss:	0.0029
1/1					
1/1					
1/1					
1/1	05	43111S/Step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1	0s	27ms/step			
1/1	0s	28ms/step			
1/1					
1/1					
1/1	05	38ms/sten			
-, <b>-</b>	93	303, 3 ccρ			

```
1/1 -
           Os 34ms/step
     Os 27ms/step
          Os 56ms/step
1/1 ---
                 - 0s 32ms/step
                 – 0s 30ms/step - loss: 0.0327
1/1 -
1/1 ——— 0s 33ms/step - loss: 0.0315
Epoch: 056/149 | Loss: 0.0315 | Episodes: 264 | Win count: 3 | Win rate: 0.053 | tim
e: 373.5 seconds
              Os 32ms/step
                — 0s 31ms/step
1/1 -
1/1 0s 29ms/step
1/1 0s 33ms/step
              Os 35ms/step
1/1 ---
1/1 -----
                 - 0s 33ms/step
                -- 0s 31ms/step
1/1 -
                 - 0s 33ms/step
1/1 -
     0s 37ms/step
1/1 -
1/1 -----
          Os 40ms/step
                 - 0s 45ms/step
1/1 -
1/1 -
                -- 0s 29ms/step
              ——— 0s 28ms/step
1/1 -
                 - 0s 30ms/step
1/1 ———— 0s 30ms/step
                 - 0s 30ms/step
1/1 -
                — 0s 25ms/step
1/1 -
1/1 ———— 0s 25ms/step
                 - 0s 28ms/step
                 - 0s 29ms/step
1/1 -
1/1 ——— 0s 34ms/step - loss: 0.0024
                 - 0s 29ms/step
1/1 -
               — 0s 33ms/step
                 - 0s 30ms/step
                 - 0s 30ms/step
1/1 -
1/1 ———— 0s 26ms/step
1/1 -
                 - 0s 30ms/step
1/1 -
               --- 0s 39ms/step
1/1 ...... 0s 30ms/step
                 - 0s 28ms/step
1/1 -
                 - 0s 27ms/step
1/1 -
     0s 30ms/step
1/1 -----
1/1 Os 27ms/step
                 - 0s 36ms/step
1/1 -
               --- 0s 30ms/step
                 - 0s 26ms/step
                 - 0s 28ms/step
1/1 -
      0s 27ms/step
1/1 ---
1/1 -
                 - 0s 27ms/step
                 - 0s 34ms/step
1/1 -
1/1 0s 30ms/step
                 – 0s 30ms/step - loss: 0.0029
1/1 -
1/1 ——— 0s 33ms/step - loss: 0.0032
             Os 33ms/step
1/1 -
     Os 47ms/step
1/1 -
      Os 39ms/step
1/1 -
1/1 0s 32ms/step
```

```
1/1 -
                    —— 0s 27ms/step
                      - 0s 32ms/step
                      - 0s 29ms/step
1/1 -
1/1 -
                       - 0s 28ms/step
                       - 0s 28ms/step
1/1 -
                      - 0s 24ms/step
1/1 ----
1/1 -
                       - 0s 36ms/step
                       - 0s 24ms/step
                       - 0s 32ms/step
1/1 -
                       - 0s 33ms/step
                       - 0s 29ms/step
1/1 -
                       - 0s 27ms/step
1/1 -----
                      - 0s 30ms/step
1/1 -
                      - 0s 31ms/step
1/1 -
                      - 0s 24ms/step
1/1 -
                       - 0s 29ms/step
1/1 -
1/1 -
                      - 0s 44ms/step - loss: 0.0049
1/1 ---
                     — 0s 28ms/step - loss: 0.0052
                      - 0s 28ms/step
1/1 -
1/1 -
                      - 0s 29ms/step
                      - 0s 28ms/step
                      - 0s 30ms/step
1/1 -
1/1 -----
                     — 0s 33ms/step
                      - 0s 31ms/step
1/1 -
                      - 0s 31ms/step
1/1 -
                  ——— 0s 30ms/step
                      - 0s 35ms/step
                       - 0s 36ms/step
1/1 -
1/1 -----
                      - 0s 37ms/step
1/1 -----
                    --- 0s 31ms/step
                      - 0s 31ms/step
1/1 -
                      - 0s 29ms/step
                       - 0s 33ms/step
                       - 0s 34ms/step
1/1 -
1/1 -----
                     — 0s 32ms/step
1/1 -
                      - 0s 46ms/step
1/1 -
                      - 0s 33ms/step
1/1 ---- 0s 28ms/step
                      — 0s 42ms/step - loss: 0.0019
1/1 -
                Os 44ms/step - loss: 0.0019
Epoch: 057/149 | Loss: 0.0019 | Episodes: 268 | Win count: 3 | Win rate: 0.052 | tim
e: 379.6 seconds
1/1 -----
                      - 0s 28ms/step
                    —— 0s 37ms/step
1/1 -
                       - 0s 28ms/step
                       - 0s 26ms/step
1/1 -
1/1 ---
                       - 0s 29ms/step
1/1 -
                      - 0s 26ms/step
                       - 0s 31ms/step
1/1 -
                      - 0s 30ms/step
1/1 -
                      - 0s 32ms/step
     Os 30ms/step
1/1 -
                       - 0s 34ms/step
1/1 -
                    —— 0s 47ms/step
1/1 -
                      - 0s 31ms/step
1/1 -
             0s 30ms/step
```

1/1	0s	29ms/step			
1/1					
1/1	0s	26ms/step			
1/1	0s	31ms/step			
1/1	0s	25ms/step			
1/1	0s	26ms/step			
1/1					
1/1	0s	27ms/step	-	loss:	0.0035
1/1					
1/1					
1/1	0s	28ms/step			
1/1					
1/1	0s	33ms/step			
1/1	0s	37ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	29ms/step			
1/1					
1/1	0s	27ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	25ms/step			
1/1	0s	26ms/step			
1/1	0s	36ms/step	-	loss:	0.0038
1/1 ———————————————————————————————————	0s 0s	36ms/step 36ms/step			
1/1 ———————————————————————————————————	0s 0s 0s	36ms/step 36ms/step 27ms/step			
1/1 ———————————————————————————————————	0s 0s 0s 0s	36ms/step 36ms/step 27ms/step 42ms/step			
1/1 ———————————————————————————————————	0s 0s 0s 0s	36ms/step 36ms/step 27ms/step 42ms/step 41ms/step			
1/1 ———————————————————————————————————	0s 0s 0s 0s 0s	36ms/step 36ms/step 27ms/step 42ms/step 41ms/step 27ms/step			
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s	36ms/step 36ms/step 27ms/step 42ms/step 41ms/step 27ms/step 26ms/step			
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s 0s	36ms/step 36ms/step 27ms/step 42ms/step 41ms/step 27ms/step 26ms/step 31ms/step			
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s 0s 0s	36ms/step 36ms/step 27ms/step 42ms/step 41ms/step 27ms/step 26ms/step 31ms/step 35ms/step			
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s 0s 0s	36ms/step 36ms/step 27ms/step 42ms/step 41ms/step 27ms/step 26ms/step 31ms/step 35ms/step 32ms/step			
1/1 — 1/1 —	0s 0s 0s 0s 0s 0s 0s 0s	36ms/step 36ms/step 27ms/step 42ms/step 41ms/step 27ms/step 26ms/step 31ms/step 35ms/step 32ms/step 36ms/step			
1/1 —	0s 0s 0s 0s 0s 0s 0s 0s 0s	36ms/step 36ms/step 27ms/step 42ms/step 41ms/step 27ms/step 26ms/step 31ms/step 35ms/step 32ms/step 36ms/step 44ms/step			
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	36ms/step 36ms/step 27ms/step 42ms/step 41ms/step 27ms/step 26ms/step 31ms/step 35ms/step 32ms/step 44ms/step 32ms/step 32ms/step			
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	36ms/step 36ms/step 27ms/step 42ms/step 41ms/step 27ms/step 26ms/step 31ms/step 35ms/step 32ms/step 44ms/step 32ms/step 37ms/step			
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	36ms/step 36ms/step 27ms/step 42ms/step 41ms/step 27ms/step 26ms/step 31ms/step 35ms/step 32ms/step 36ms/step 44ms/step 37ms/step 37ms/step 32ms/step			
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	36ms/step 36ms/step 27ms/step 42ms/step 41ms/step 27ms/step 26ms/step 31ms/step 35ms/step 32ms/step 36ms/step 44ms/step 32ms/step 32ms/step 32ms/step 29ms/step			
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	36ms/step 36ms/step 27ms/step 42ms/step 41ms/step 27ms/step 26ms/step 31ms/step 35ms/step 32ms/step 36ms/step 44ms/step 32ms/step 37ms/step 32ms/step 39ms/step 30ms/step			
1/1	0s 0	36ms/step 36ms/step 27ms/step 42ms/step 41ms/step 27ms/step 26ms/step 31ms/step 35ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step			
1/1	0s	36ms/step 36ms/step 27ms/step 42ms/step 41ms/step 27ms/step 26ms/step 35ms/step 35ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 29ms/step 32ms/step 29ms/step 32ms/step			
1/1	0s 0	36ms/step 36ms/step 27ms/step 42ms/step 41ms/step 27ms/step 26ms/step 35ms/step 35ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 34ms/step 34ms/step 34ms/step			
1/1	0s 0	36ms/step 36ms/step 27ms/step 42ms/step 41ms/step 27ms/step 26ms/step 31ms/step 35ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 29ms/step 32ms/step 34ms/step 35ms/step 35ms/step			
1/1	0s 0	36ms/step 36ms/step 27ms/step 42ms/step 41ms/step 27ms/step 26ms/step 31ms/step 35ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 37ms/step 37ms/step 37ms/step 37ms/step 37ms/step 37ms/step 37ms/step		loss:	0.0037
1/1	0s 0	36ms/step 36ms/step 27ms/step 42ms/step 41ms/step 27ms/step 26ms/step 35ms/step 35ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 34ms/step 35ms/step 35ms/step 35ms/step	_	loss:	0.0037
1/1         1/1	0s 0	36ms/step 36ms/step 27ms/step 42ms/step 41ms/step 27ms/step 31ms/step 35ms/step 35ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 29ms/step 30ms/step 32ms/step 30ms/step 37ms/step 37ms/step 34ms/step 35ms/step 34ms/step 34ms/step 34ms/step	_	loss:	0.0037
1/1	0s 0	36ms/step 36ms/step 27ms/step 42ms/step 41ms/step 27ms/step 26ms/step 31ms/step 35ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 32ms/step 30ms/step 32ms/step 32ms/step 32ms/step 34ms/step 35ms/step 35ms/step 35ms/step 37ms/step 31ms/step 31ms/step	_	loss:	0.0037
1/1	0s 0	36ms/step 36ms/step 27ms/step 42ms/step 41ms/step 27ms/step 26ms/step 31ms/step 35ms/step 32ms/step 34ms/step 35ms/step 35ms/step 35ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step	_	loss:	0.0037
1/1	0s 0	36ms/step 36ms/step 27ms/step 42ms/step 41ms/step 27ms/step 26ms/step 31ms/step 35ms/step 32ms/step 34ms/step 35ms/step 35ms/step 35ms/step 37ms/step	_	loss:	0.0037

```
1/1 -
                  ____ 0s 31ms/step
                      - 0s 35ms/step
                      - 0s 26ms/step
1/1 -
1/1 -
                       - 0s 31ms/step
                       - 0s 33ms/step
1/1 -
                      - 0s 29ms/step
1/1 ----
1/1 -
                       - 0s 32ms/step
1/1 -
                       - 0s 34ms/step
                       - 0s 32ms/step
1/1 -
                       - 0s 25ms/step
                       - 0s 34ms/step
1/1 -
                       - 0s 41ms/step
1/1 -----
                      - 0s 57ms/step
1/1 -
                      - 0s 27ms/step
1/1 -
                      - 0s 25ms/step
1/1 -
                       - 0s 36ms/step
1/1 -
                      - 0s 40ms/step - loss: 0.0022
1/1 -
1/1 ——— 0s 28ms/step - loss: 0.0021
Epoch: 058/149 | Loss: 0.0021 | Episodes: 272 | Win count: 3 | Win rate: 0.051 | tim
e: 385.6 seconds
1/1
                      - 0s 36ms/step
                      - 0s 35ms/step
1/1 -
1/1 -----
                     — 0s 34ms/step
                       - 0s 33ms/step
1/1 -
                      - 0s 29ms/step
1/1 -
                    Os 30ms/step
                      - 0s 30ms/step
                       - 0s 28ms/step
1/1 -
1/1 -----
                      - 0s 23ms/step
                    —— 0s 29ms/step
1/1 -----
                      - 0s 34ms/step
1/1 -
                      — 0s 31ms/step
                       - 0s 33ms/step
                       - 0s 27ms/step
1/1 -
1/1 -----
                     — 0s 32ms/step
1/1 -
                      - 0s 34ms/step
1/1 -
                      - 0s 33ms/step
                      0s 28ms/step
                      - 0s 34ms/step
1/1 -
                       - 0s 31ms/step
1/1 -
                      – 0s 31ms/step - loss: 0.0031
1/1 ----
1/1 -----
                    —— 0s 35ms/step - loss: 0.0029
                       - 0s 28ms/step
1/1 -
                      - 0s 47ms/step
                       - 0s 28ms/step
                       - 0s 29ms/step
1/1 -
1/1 -
                       - 0s 36ms/step
1/1 -
                      - 0s 38ms/step
                       - 0s 39ms/step
1/1 -
                      - 0s 33ms/step
1/1 -
                       - 0s 31ms/step
1/1 -
                       - 0s 34ms/step
                       - 0s 31ms/step
1/1 -
                    —— 0s 30ms/step
1/1 -
                      - 0s 33ms/step
1/1 -
                 Os 48ms/step
```

1/1	95	31ms/sten			
1/1					
1/1					
1/1	05	31ms/step			
1/1					
1/1	05	27ms/step			
1/1				1000	0 0021
1/1					
1/1			-	1055.	0.0028
1/1					
1/1					
1/1	05	20ms/step			
1/1	05	33ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	2/ms/step			
1/1	05	20ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	33ms/step			
±/ ±	03	JJ1113/ JCCD			
			_	1055.	0 0016
1/1	0s	37ms/step	-	loss:	0.0016
1/1 ———————————————————————————————————	0s 0s	37ms/step 46ms/step	-	loss:	0.0016 0.0017
1/1 ———————————————————————————————————	0s 0s 0s	37ms/step 46ms/step 35ms/step	-	loss:	0.0016 0.0017
1/1 ———————————————————————————————————	0s 0s 0s 0s	37ms/step 46ms/step 35ms/step 50ms/step	-	loss:	0.0016 0.0017
1/1 ———————————————————————————————————	0s 0s 0s 0s	37ms/step 46ms/step 35ms/step 50ms/step 49ms/step	-	loss:	0.0016 0.0017
1/1 ———————————————————————————————————	0s 0s 0s 0s 0s	37ms/step 46ms/step 35ms/step 50ms/step 49ms/step 38ms/step	-	loss:	0.0016 0.0017
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s	37ms/step 46ms/step 35ms/step 50ms/step 49ms/step 38ms/step 35ms/step	-	loss:	0.0016 0.0017
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s 0s	37ms/step 46ms/step 35ms/step 50ms/step 49ms/step 38ms/step 35ms/step 33ms/step	-	loss:	0.0016 0.0017
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s 0s 0s	37ms/step 46ms/step 35ms/step 50ms/step 49ms/step 38ms/step 35ms/step 33ms/step 29ms/step	-	loss: loss:	0.0016 0.0017
1/1 — 1/1 —	0s 0s 0s 0s 0s 0s 0s 0s	37ms/step 46ms/step 35ms/step 50ms/step 49ms/step 38ms/step 35ms/step 33ms/step 29ms/step 34ms/step 41ms/step	-	loss:	0.0016 0.0017
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s 0s 0s 0s	37ms/step 46ms/step 35ms/step 50ms/step 49ms/step 38ms/step 35ms/step 33ms/step 29ms/step 34ms/step 41ms/step	-	loss:	0.0016 0.0017
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	37ms/step 46ms/step 35ms/step 50ms/step 49ms/step 38ms/step 35ms/step 33ms/step 29ms/step 34ms/step 41ms/step 32ms/step 39ms/step	-	loss:	0.0016 0.0017
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	37ms/step 46ms/step 35ms/step 50ms/step 49ms/step 38ms/step 35ms/step 33ms/step 29ms/step 34ms/step 41ms/step 32ms/step 39ms/step 34ms/step	-	loss:	0.0016 0.0017
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	37ms/step 46ms/step 35ms/step 50ms/step 49ms/step 38ms/step 35ms/step 33ms/step 29ms/step 34ms/step 41ms/step 32ms/step 39ms/step 34ms/step 34ms/step 34ms/step 34ms/step	-	loss:	0.0016 0.0017
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	37ms/step 46ms/step 35ms/step 50ms/step 49ms/step 38ms/step 35ms/step 33ms/step 29ms/step 34ms/step 32ms/step 39ms/step 34ms/step 34ms/step 34ms/step 27ms/step	-	loss:	0.0016 0.0017
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	37ms/step 46ms/step 35ms/step 50ms/step 49ms/step 38ms/step 35ms/step 33ms/step 29ms/step 34ms/step 32ms/step 39ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 31ms/step	-	loss:	0.0016 0.0017
1/1	0s 0	37ms/step 46ms/step 35ms/step 50ms/step 49ms/step 38ms/step 35ms/step 33ms/step 29ms/step 34ms/step 32ms/step 39ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step	-	loss: loss:	0.0016 0.0017
1/1	0s	37ms/step 46ms/step 35ms/step 50ms/step 49ms/step 38ms/step 35ms/step 33ms/step 29ms/step 34ms/step 32ms/step 39ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 35ms/step 35ms/step 35ms/step 35ms/step		loss:	0.0016 0.0017
1/1	0s 0	37ms/step 46ms/step 35ms/step 50ms/step 49ms/step 38ms/step 35ms/step 33ms/step 29ms/step 34ms/step 32ms/step 32ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 31ms/step 30ms/step 31ms/step		loss:	0.0016
1/1	0s 0	37ms/step 46ms/step 35ms/step 50ms/step 49ms/step 38ms/step 35ms/step 33ms/step 29ms/step 34ms/step 32ms/step 32ms/step 34ms/step 34ms/step 34ms/step 31ms/step 33ms/step 30ms/step 31ms/step 34ms/step		loss: loss:	0.0016
1/1	0s 0	37ms/step 46ms/step 35ms/step 50ms/step 49ms/step 38ms/step 35ms/step 35ms/step 34ms/step 34ms/step 32ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 31ms/step 33ms/step 30ms/step 30ms/step 30ms/step		loss:	0.0017
1/1	0s 0	37ms/step 46ms/step 35ms/step 50ms/step 49ms/step 38ms/step 35ms/step 33ms/step 29ms/step 34ms/step 32ms/step 32ms/step 34ms/step 34ms/step 34ms/step 34ms/step 31ms/step 30ms/step 34ms/step 30ms/step 30ms/step		loss:	0.0017
1/1         1/1	0s 0	37ms/step 46ms/step 35ms/step 50ms/step 49ms/step 38ms/step 35ms/step 33ms/step 29ms/step 34ms/step 32ms/step 34ms/step 34ms/step 34ms/step 31ms/step 30ms/step 34ms/step 30ms/step 30ms/step 34ms/step 30ms/step 34ms/step 30ms/step 34ms/step		loss:	0.0017
1/1	0s 0	37ms/step 46ms/step 35ms/step 50ms/step 49ms/step 38ms/step 35ms/step 33ms/step 29ms/step 34ms/step 32ms/step 34ms/step 34ms/step 34ms/step 31ms/step 33ms/step 30ms/step 34ms/step 30ms/step 34ms/step 33ms/step 30ms/step 34ms/step 34ms/step		loss:	0.0017
1/1	0s 0	37ms/step 46ms/step 35ms/step 50ms/step 49ms/step 38ms/step 35ms/step 33ms/step 29ms/step 34ms/step 32ms/step 34ms/step 34ms/step 34ms/step 34ms/step 31ms/step 33ms/step 30ms/step 30ms/step 30ms/step 34ms/step 30ms/step 30ms/step 30ms/step 30ms/step 30ms/step		loss:	0.0017
1/1	0s 0	37ms/step 46ms/step 35ms/step 50ms/step 49ms/step 38ms/step 35ms/step 33ms/step 29ms/step 34ms/step 32ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 31ms/step 33ms/step 30ms/step 30ms/step 30ms/step 34ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step		loss:	0.0017

```
1/1 -
                     — 0s 31ms/step
                       - 0s 31ms/step
                       - 0s 33ms/step
1/1 -
1/1 -
                       - 0s 27ms/step
                       - 0s 27ms/step
1/1 -
                       - 0s 31ms/step
1/1 ----
1/1 -
                       - 0s 32ms/step
                       - 0s 36ms/step
                       - 0s 27ms/step
1/1 -
                       - 0s 29ms/step
                       - 0s 28ms/step
1/1 -
1/1 -----
                       - 0s 30ms/step
                       - 0s 28ms/step
1/1 -
                       - 0s 30ms/step
1/1 -
                       - 0s 26ms/step
1/1 -
                       - 0s 41ms/step
1/1 -
                       - 0s 33ms/step - loss: 0.0026
1/1 -
                     — 0s 35ms/step - loss: 0.0025
1/1 ---
                       - 0s 33ms/step
1/1 -
1/1 -
                       - 0s 45ms/step
                       - 0s 42ms/step
                       - 0s 32ms/step
1/1 -
1/1 -----
                       - 0s 39ms/step
                       - 0s 32ms/step
1/1 -
                       - 0s 33ms/step
1/1 -
                       - 0s 30ms/step
                       - 0s 28ms/step
                       - 0s 31ms/step
1/1 -
1/1 -----
                       - 0s 32ms/step
1/1 -----
                     — 0s 28ms/step
                       - 0s 36ms/step
1/1 -
                       0s 30ms/step
                       - 0s 37ms/step
                       - 0s 31ms/step
1/1 -
1/1 ----
                      - 0s 33ms/step
1/1 -
                       - 0s 34ms/step
1/1 -
                      - 0s 33ms/step
1/1 ———— 0s 40ms/step
                      — 0s 39ms/step - loss: 0.0038
1/1 -
                  Os 43ms/step - loss: 0.0037
Epoch: 059/149 | Loss: 0.0037 | Episodes: 278 | Win count: 3 | Win rate: 0.050 | tim
e: 395.1 seconds
1/1 -----
                       - 0s 28ms/step
1/1 -
                     — 0s 33ms/step
                       - 0s 32ms/step
                       - 0s 28ms/step
1/1 -
1/1 ---
                       - 0s 30ms/step
1/1 -
                       - 0s 31ms/step
                       - 0s 34ms/step
1/1 -
                       - 0s 36ms/step
1/1 -
                       - 0s 33ms/step
1/1 -
                       - 0s 30ms/step
                       - 0s 24ms/step
1/1 -
1/1 -
                     --- 0s 31ms/step
                       - 0s 34ms/step
1/1 -
                  Os 33ms/step
```

1/1	<b>0</b> s	34ms/sten			
1/1					
1/1					
1/1	0s	41ms/step			
1/1					
1/1	0s	36ms/step			
1/1			_	loss:	0.0015
1/1					
1/1					
1/1					
1/1	0s	25ms/step			
1/1	0s	30ms/step			
1/1	0s	25ms/step			
1/1	0s	29ms/step			
1/1	0s	43ms/step			
1/1	0s	25ms/step			
1/1					
1/1					
1/1	0s	30ms/step			
1/1					
1/1	0s	27ms/step			
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1					
1/1	0s	33ms/step	-	loss:	0.0017
1/1	0s	35ms/step	-	<pre>loss: loss:</pre>	0.0017 0.0016
1/1	0s 0s	35ms/step 33ms/step	-	loss:	0.0017 0.0016
1/1 ———————————————————————————————————	0s 0s 0s	35ms/step 33ms/step 30ms/step	-	loss:	0.0017 0.0016
1/1 ———————————————————————————————————	0s 0s 0s 0s	35ms/step 33ms/step 30ms/step 30ms/step	-	loss:	0.0017 0.0016
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s	35ms/step 33ms/step 30ms/step 30ms/step 37ms/step	-	loss:	0.0017 0.0016
1/1 ———————————————————————————————————	0s 0s 0s 0s 0s	35ms/step 33ms/step 30ms/step 30ms/step 37ms/step 40ms/step	-	loss:	0.0017 0.0016
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s 0s	35ms/step 33ms/step 30ms/step 30ms/step 37ms/step 40ms/step 37ms/step	-	loss:	0.0017 0.0016
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s 0s	35ms/step 33ms/step 30ms/step 30ms/step 37ms/step 40ms/step 37ms/step 31ms/step	-	loss:	0.0017 0.0016
1/1 —	0s 0s 0s 0s 0s 0s 0s	35ms/step 33ms/step 30ms/step 37ms/step 40ms/step 37ms/step 31ms/step 30ms/step	-	loss:	0.0017 0.0016
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s 0s 0s	35ms/step 33ms/step 30ms/step 37ms/step 40ms/step 37ms/step 31ms/step 30ms/step 26ms/step	-	loss:	0.0017 0.0016
1/1	0s 0s 0s 0s 0s 0s 0s 0s	35ms/step 33ms/step 30ms/step 30ms/step 37ms/step 40ms/step 31ms/step 30ms/step 26ms/step 31ms/step	-	loss:	0.0017 0.0016
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s	35ms/step 33ms/step 30ms/step 30ms/step 37ms/step 40ms/step 37ms/step 31ms/step 26ms/step 31ms/step 30ms/step 30ms/step	-	loss:	0.0017 0.0016
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	35ms/step 33ms/step 30ms/step 37ms/step 40ms/step 37ms/step 31ms/step 30ms/step 26ms/step 30ms/step 30ms/step 27ms/step	-	loss:	0.0017 0.0016
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	35ms/step 33ms/step 30ms/step 37ms/step 40ms/step 37ms/step 31ms/step 30ms/step 31ms/step 30ms/step 30ms/step 30ms/step 30ms/step	-	loss:	0.0017 0.0016
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	35ms/step 33ms/step 30ms/step 30ms/step 37ms/step 40ms/step 37ms/step 31ms/step 30ms/step 30ms/step 30ms/step 27ms/step 30ms/step 34ms/step	-	loss:	0.0017 0.0016
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	35ms/step 33ms/step 30ms/step 30ms/step 37ms/step 40ms/step 37ms/step 31ms/step 30ms/step 26ms/step 30ms/step 30ms/step 30ms/step 30ms/step 27ms/step 34ms/step 27ms/step	-	loss:	0.0017 0.0016
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	35ms/step 33ms/step 30ms/step 30ms/step 37ms/step 40ms/step 31ms/step 30ms/step 30ms/step 30ms/step 27ms/step 30ms/step 34ms/step 34ms/step 34ms/step	-	loss:	0.0017 0.0016
1/1	0s 0	35ms/step 33ms/step 30ms/step 30ms/step 37ms/step 40ms/step 31ms/step 30ms/step 31ms/step 30ms/step 30ms/step 27ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step	-	loss:	0.0017 0.0016
1/1	0s 0	35ms/step 33ms/step 30ms/step 30ms/step 37ms/step 40ms/step 37ms/step 31ms/step 30ms/step 26ms/step 30ms/step 30ms/step 27ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 30ms/step	-	loss:	0.0017 0.0016
1/1	0s 0	35ms/step 33ms/step 30ms/step 30ms/step 37ms/step 40ms/step 31ms/step 30ms/step 26ms/step 30ms/step 30ms/step 27ms/step 34ms/step 34ms/step 34ms/step 34ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step		loss:	0.0017 0.0016
1/1	0s 0	35ms/step 33ms/step 30ms/step 30ms/step 37ms/step 40ms/step 31ms/step 30ms/step 26ms/step 30ms/step 27ms/step 30ms/step 34ms/step 34ms/step 34ms/step 35ms/step 35ms/step 36ms/step 36ms/step		loss:	0.0016
1/1	0s 0	35ms/step 33ms/step 30ms/step 30ms/step 37ms/step 40ms/step 31ms/step 30ms/step 30ms/step 30ms/step 27ms/step 30ms/step 34ms/step 34ms/step 34ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step	_	loss:	0.0016
1/1	0s 0	35ms/step 33ms/step 30ms/step 30ms/step 37ms/step 37ms/step 31ms/step 30ms/step 31ms/step 30ms/step 30ms/step 27ms/step 34ms/step 34ms/step 34ms/step 35ms/step 35ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step	_	loss:	0.0016
1/1	0s 0	35ms/step 33ms/step 30ms/step 30ms/step 37ms/step 37ms/step 31ms/step 30ms/step 26ms/step 30ms/step 30ms/step 27ms/step 34ms/step 34ms/step 34ms/step 35ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step	_	loss:	0.0016
1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1	0s 0	35ms/step 33ms/step 30ms/step 30ms/step 37ms/step 37ms/step 31ms/step 30ms/step 26ms/step 30ms/step 27ms/step 30ms/step 30ms/step 34ms/step 34ms/step 34ms/step 35ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step	_	loss:	0.0016
1/1	0s 0	35ms/step 33ms/step 30ms/step 30ms/step 37ms/step 40ms/step 31ms/step 30ms/step 26ms/step 30ms/step 27ms/step 30ms/step 34ms/step 34ms/step 34ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step 36ms/step 35ms/step 36ms/step 35ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step 36ms/step	_	loss:	0.0016

```
1/1 -
                    — 0s 34ms/step
                      - 0s 33ms/step
                       - 0s 31ms/step
1/1 -
1/1 -
                       - 0s 28ms/step
                       - 0s 30ms/step
1/1 -
                       - 0s 27ms/step
1/1 ----
1/1 -
                       - 0s 27ms/step
                       - 0s 30ms/step
                       - 0s 31ms/step
1/1 -
                       - 0s 32ms/step
                       - 0s 26ms/step
1/1 -
1/1 -----
                       - 0s 27ms/step
                      - 0s 28ms/step
1/1 -
                       - 0s 31ms/step
1/1 -
                      - 0s 40ms/step
1/1 -
                       - 0s 32ms/step
1/1 -
                      - 0s 36ms/step - loss: 0.0016
1/1 -
                     — 0s 35ms/step - loss: 0.0017
1/1 ---
                      - 0s 29ms/step
1/1 -
1/1 -
                      - 0s 27ms/step
                      - 0s 30ms/step
                       - 0s 33ms/step
1/1 -
1/1 -----
                     —— 0s 29ms/step
                       - 0s 26ms/step
1/1 -
                      - 0s 33ms/step
1/1 -
                  Os 47ms/step
                      - 0s 39ms/step
                       - 0s 32ms/step
1/1 -
1/1 -----
                       - 0s 35ms/step
1/1 -----
                     — 0s 40ms/step
                       - 0s 36ms/step
1/1 -
                      - 0s 31ms/step
                       - 0s 31ms/step
                       - 0s 43ms/step
1/1 -
1/1 -----
                      — 0s 29ms/step
1/1 -
                      - 0s 26ms/step
1/1 -
                      - 0s 40ms/step
1/1 0s 32ms/step
                      — 0s 27ms/step - loss: 0.0292
1/1 -
                0s 34ms/step - loss: 0.0280
Epoch: 060/149 | Loss: 0.0280 | Episodes: 283 | Win count: 3 | Win rate: 0.049 | tim
e: 6.71 minutes
1/1 -
                      - 0s 40ms/step
1/1 -
                     — 0s 24ms/step
                       - 0s 28ms/step
                       - 0s 24ms/step
1/1 -
1/1 ---
                       - 0s 26ms/step
1/1 -
                      - 0s 26ms/step
                       - 0s 32ms/step
1/1 -
                      - 0s 25ms/step
                       - 0s 40ms/step
1/1 -
1/1 -
                       - 0s 34ms/step
                       - 0s 29ms/step
1/1 -
                   Os 30ms/step
1/1 -
                      - 0s 27ms/step
1/1 -
             0s 31ms/step
```

1/1	95	28ms/sten			
1/1					
1/1					
1/1	as	28ms/step			
1/1					
1/1	as	37ms/step			
1/1			_	1000	a aa23
1/1					
1/1				1033.	0.0021
1/1					
1/1					
1/1	05	24ms/step			
1/1					
1/1	05	37ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	05	28ms/step			
1/1					
1/1	05	28ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1				_	
1/1	0s	35ms/step	-	loss:	0.0023
				_	
1/1		31ms/step	-	loss:	0.0022
1/1	0s	31ms/step 33ms/step	-	loss:	0.0022
1/1 ———————————————————————————————————	0s 0s	31ms/step 33ms/step 31ms/step	-	loss:	0.0022
1/1 ———————————————————————————————————	0s 0s 0s	31ms/step 33ms/step 31ms/step 30ms/step	-	loss:	0.0022
1/1 ———————————————————————————————————	0s 0s 0s 0s	31ms/step 33ms/step 31ms/step 30ms/step 30ms/step	-	loss:	0.0022
1/1 ———————————————————————————————————	0s 0s 0s 0s	31ms/step 33ms/step 31ms/step 30ms/step 30ms/step 32ms/step	-	loss:	0.0022
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s	31ms/step 33ms/step 31ms/step 30ms/step 30ms/step 32ms/step 32ms/step	-	loss:	0.0022
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s	31ms/step 33ms/step 31ms/step 30ms/step 32ms/step 32ms/step 31ms/step	-	loss:	0.0022
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s 0s	31ms/step 33ms/step 31ms/step 30ms/step 32ms/step 32ms/step 31ms/step 25ms/step	-	loss:	0.0022
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s 0s 0s	31ms/step 33ms/step 31ms/step 30ms/step 32ms/step 32ms/step 31ms/step 25ms/step 30ms/step	-	loss:	0.0022
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s 0s 0s	31ms/step 33ms/step 31ms/step 30ms/step 30ms/step 32ms/step 31ms/step 25ms/step 30ms/step 37ms/step	_	loss:	0.0022
1/1 —	0s 0s 0s 0s 0s 0s 0s 0s	31ms/step 33ms/step 31ms/step 30ms/step 32ms/step 32ms/step 31ms/step 25ms/step 30ms/step 37ms/step 26ms/step	_	loss:	0.0022
1/1 —	0s 0s 0s 0s 0s 0s 0s 0s 0s	31ms/step 33ms/step 31ms/step 30ms/step 32ms/step 32ms/step 31ms/step 25ms/step 30ms/step 37ms/step 26ms/step 29ms/step		loss:	0.0022
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	31ms/step 33ms/step 31ms/step 30ms/step 32ms/step 32ms/step 31ms/step 25ms/step 30ms/step 37ms/step 26ms/step 29ms/step 33ms/step		loss:	0.0022
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	31ms/step 33ms/step 31ms/step 30ms/step 30ms/step 32ms/step 32ms/step 25ms/step 30ms/step 37ms/step 26ms/step 29ms/step 33ms/step 32ms/step	-	loss:	0.0022
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	31ms/step 33ms/step 31ms/step 30ms/step 32ms/step 32ms/step 31ms/step 25ms/step 30ms/step 37ms/step 26ms/step 29ms/step 33ms/step 32ms/step 34ms/step		loss:	0.0022
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	31ms/step 33ms/step 31ms/step 30ms/step 32ms/step 32ms/step 31ms/step 25ms/step 30ms/step 37ms/step 26ms/step 29ms/step 33ms/step 32ms/step 34ms/step 28ms/step		loss:	0.0022
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	31ms/step 33ms/step 31ms/step 30ms/step 30ms/step 32ms/step 32ms/step 31ms/step 25ms/step 37ms/step 26ms/step 29ms/step 33ms/step 32ms/step 32ms/step 34ms/step 34ms/step 34ms/step		loss:	0.0022
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	31ms/step 33ms/step 31ms/step 30ms/step 32ms/step 32ms/step 32ms/step 25ms/step 30ms/step 37ms/step 26ms/step 29ms/step 33ms/step 32ms/step 34ms/step 34ms/step 34ms/step 30ms/step		loss:	0.0022
1/1	0s 0	31ms/step 33ms/step 31ms/step 30ms/step 32ms/step 32ms/step 31ms/step 25ms/step 30ms/step 37ms/step 26ms/step 29ms/step 33ms/step 32ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step		loss:	0.0022
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	31ms/step 33ms/step 31ms/step 30ms/step 32ms/step 32ms/step 32ms/step 25ms/step 30ms/step 37ms/step 26ms/step 29ms/step 33ms/step 32ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step		loss:	0.0022
1/1	0s 0	31ms/step 33ms/step 31ms/step 30ms/step 32ms/step 32ms/step 32ms/step 31ms/step 25ms/step 30ms/step 37ms/step 26ms/step 29ms/step 32ms/step 32ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step	_	loss:	0.0022
1/1	0s 0	31ms/step 33ms/step 31ms/step 30ms/step 32ms/step 32ms/step 31ms/step 25ms/step 37ms/step 26ms/step 29ms/step 33ms/step 32ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 31ms/step 31ms/step	_	loss:	0.0022
1/1	0s 0	31ms/step 33ms/step 31ms/step 30ms/step 32ms/step 32ms/step 31ms/step 25ms/step 30ms/step 37ms/step 26ms/step 29ms/step 33ms/step 32ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step	_	loss:	0.0022
1/1       1/1	0s 0	31ms/step 33ms/step 31ms/step 30ms/step 32ms/step 32ms/step 31ms/step 25ms/step 30ms/step 30ms/step 37ms/step 26ms/step 29ms/step 33ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 34ms/step 32ms/step 32ms/step 31ms/step 32ms/step 32ms/step	_	loss:	0.0022
1/1	0s 0	31ms/step 33ms/step 31ms/step 30ms/step 32ms/step 32ms/step 32ms/step 31ms/step 25ms/step 30ms/step 37ms/step 26ms/step 29ms/step 33ms/step 34ms/step	_	loss:	0.0022

```
1/1 -
                     — 0s 31ms/step
                       - 0s 26ms/step
                       - 0s 32ms/step
1/1 -
1/1 -
                        0s 29ms/step
                        - 0s 28ms/step
1/1 -
                       - 0s 28ms/step
1/1 -
1/1 -
                       - 0s 34ms/step
                        - 0s 33ms/step
                       - 0s 32ms/step
1/1 -
                       - 0s 35ms/step
                       - 0s 34ms/step
1/1 -
                       - 0s 31ms/step
1/1 -----
                       - 0s 30ms/step
1/1 -
                       - 0s 41ms/step
1/1 -
                       - 0s 26ms/step
1/1 -
                       - 0s 30ms/step
1/1 -
                       - 0s 32ms/step - loss: 0.0064
1/1 -
1/1 ——— 0s 32ms/step - loss: 0.0062
Epoch: 061/149 | Loss: 0.0062 | Episodes: 287 | Win count: 3 | Win rate: 0.048 | tim
e: 6.81 minutes
1/1 -----
                       - 0s 31ms/step
                       - 0s 32ms/step
1/1 -
1/1 -----
                       - 0s 36ms/step
                       - 0s 28ms/step
1/1 -
                       - 0s 33ms/step
1/1 -
                       - 0s 36ms/step
                       - 0s 27ms/step
                       - 0s 31ms/step
1/1 -
                       - 0s 31ms/step
1/1 -
                     — 0s 43ms/step
1/1 -----
                       - 0s 33ms/step
1/1 -
                       - 0s 30ms/step
                       - 0s 30ms/step
                       - 0s 31ms/step
1/1 -
                       - 0s 32ms/step
1/1 -
1/1 -
                       - 0s 29ms/step
1/1 -
                       - 0s 28ms/step
                       0s 31ms/step
                       - 0s 35ms/step
1/1 -
                       - 0s 25ms/step
1/1 -
                       - 0s 28ms/step - loss: 0.0038
1/1 -
1/1 ---
                     Os 31ms/step - loss: 0.0037
                       - 0s 30ms/step
1/1 -
                       - 0s 31ms/step
                       - 0s 32ms/step
                       - 0s 27ms/step
1/1 -
1/1 -
                       - 0s 34ms/step
1/1 -
                       - 0s 37ms/step
                       - 0s 35ms/step
1/1 -
                       0s 24ms/step
1/1 -
                       - 0s 29ms/step
1/1 -
                       - 0s 26ms/step
                       - 0s 39ms/step
1/1 -
1/1 -
                       - 0s 34ms/step
                       - 0s 33ms/step
1/1 -
                   0s 44ms/step
```

1/1	0s	36ms/step			
1/1					
1/1					
1/1	0s	28ms/step			
1/1					
1/1	0s	33ms/step			
1/1			_	loss:	0.0020
1/1					
1/1					
1/1	0s	28ms/step			
1/1	0s	35ms/step			
1/1	0s	30ms/step			
1/1	0s	29ms/step			
1/1	0s	23ms/step			
1/1	0s	31ms/step			
1/1					
1/1					
1/1					
1/1	0s	34ms/step			
1/1	0s	29ms/step			
1/1	0s	32ms/step			
1/1	0s	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	36ms/step			
1/1					
1/1	0s	32ms/step	-	loss:	0.0032
1/1	0s	32ms/step	- -	loss:	0.0032 0.0031
1/1	0s 0s	32ms/step 31ms/step	-	loss:	0.0032 0.0031
1/1 ———————————————————————————————————	0s 0s 0s	32ms/step 31ms/step 32ms/step	-	loss:	0.0032 0.0031
1/1 ———————————————————————————————————	0s 0s 0s 0s	32ms/step 31ms/step 32ms/step 32ms/step	-	loss:	0.0032 0.0031
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s	32ms/step 31ms/step 32ms/step 32ms/step 33ms/step	-	loss:	0.0032 0.0031
1/1 ———————————————————————————————————	0s 0s 0s 0s 0s	32ms/step 31ms/step 32ms/step 32ms/step 33ms/step 32ms/step	-	loss:	0.0032 0.0031
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s 0s	32ms/step 31ms/step 32ms/step 32ms/step 33ms/step 32ms/step 37ms/step	-	loss:	0.0032 0.0031
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s 0s	32ms/step 31ms/step 32ms/step 32ms/step 33ms/step 32ms/step 37ms/step 40ms/step	-	loss:	0.0032 0.0031
1/1 —	0s 0s 0s 0s 0s 0s 0s	32ms/step 31ms/step 32ms/step 32ms/step 32ms/step 37ms/step 40ms/step 30ms/step	-	loss:	0.0032 0.0031
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s 0s 0s	32ms/step 31ms/step 32ms/step 32ms/step 32ms/step 37ms/step 40ms/step 36ms/step	-	loss:	0.0032 0.0031
1/1	0s 0s 0s 0s 0s 0s 0s 0s	32ms/step 31ms/step 32ms/step 32ms/step 33ms/step 37ms/step 40ms/step 30ms/step 36ms/step 28ms/step	-	loss:	0.0032 0.0031
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s	32ms/step 31ms/step 32ms/step 32ms/step 32ms/step 37ms/step 40ms/step 30ms/step 36ms/step 36ms/step 36ms/step	-	loss:	0.0032 0.0031
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	32ms/step 31ms/step 32ms/step 32ms/step 32ms/step 37ms/step 40ms/step 30ms/step 36ms/step 28ms/step 36ms/step 45ms/step	-	loss:	0.0032 0.0031
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	32ms/step 31ms/step 32ms/step 32ms/step 32ms/step 37ms/step 40ms/step 36ms/step 36ms/step 28ms/step 36ms/step 45ms/step 32ms/step	-	loss:	0.0032 0.0031
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	32ms/step 31ms/step 32ms/step 32ms/step 33ms/step 37ms/step 40ms/step 30ms/step 36ms/step 28ms/step 36ms/step 45ms/step 32ms/step 33ms/step	-	loss:	0.0032 0.0031
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	32ms/step 31ms/step 32ms/step 32ms/step 32ms/step 37ms/step 40ms/step 30ms/step 36ms/step 28ms/step 36ms/step 45ms/step 32ms/step 33ms/step 39ms/step	-	loss:	0.0032 0.0031
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	32ms/step 31ms/step 32ms/step 32ms/step 32ms/step 32ms/step 37ms/step 40ms/step 36ms/step 36ms/step 36ms/step 35ms/step 32ms/step 39ms/step 38ms/step 38ms/step	-	loss:	0.0032 0.0031
1/1	0s 0	32ms/step 31ms/step 32ms/step 32ms/step 33ms/step 37ms/step 40ms/step 30ms/step 36ms/step 28ms/step 36ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step	-	loss:	0.0032 0.0031
1/1	0s 0	32ms/step 31ms/step 32ms/step 32ms/step 33ms/step 32ms/step 37ms/step 40ms/step 36ms/step 36ms/step 36ms/step 35ms/step	-	loss:	0.0032 0.0031
1/1	0s 0	32ms/step 31ms/step 32ms/step 32ms/step 33ms/step 32ms/step 37ms/step 40ms/step 36ms/step 36ms/step 36ms/step 35ms/step 32ms/step 32ms/step 39ms/step 39ms/step 39ms/step 34ms/step 35ms/step		loss:	0.0032 0.0031
1/1	0s 0	32ms/step 31ms/step 32ms/step 32ms/step 32ms/step 32ms/step 37ms/step 40ms/step 36ms/step 28ms/step 36ms/step 35ms/step 32ms/step 32ms/step 39ms/step 39ms/step 34ms/step 35ms/step 35ms/step 37ms/step		loss:	0.0031
1/1	0s 0	32ms/step 31ms/step 32ms/step 32ms/step 33ms/step 32ms/step 37ms/step 40ms/step 36ms/step 36ms/step 36ms/step 35ms/step 32ms/step 32ms/step 39ms/step 39ms/step 39ms/step 34ms/step 35ms/step 35ms/step 35ms/step 37ms/step 33ms/step	_	loss:	0.0031
1/1	0s 0	32ms/step 31ms/step 32ms/step 32ms/step 33ms/step 37ms/step 40ms/step 36ms/step 36ms/step 36ms/step 36ms/step 35ms/step 32ms/step 32ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step	_	loss:	0.0031
1/1	0s 0	32ms/step 31ms/step 32ms/step 32ms/step 33ms/step 32ms/step 37ms/step 40ms/step 36ms/step 28ms/step 36ms/step 35ms/step 32ms/step 32ms/step 39ms/step 39ms/step 34ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step	_	loss:	0.0031
1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1	0s 0	32ms/step 31ms/step 32ms/step 32ms/step 33ms/step 32ms/step 37ms/step 30ms/step 36ms/step 36ms/step 36ms/step 35ms/step 32ms/step 32ms/step 32ms/step 33ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step 33ms/step 30ms/step	_	loss:	0.0031
1/1	0s 0	32ms/step 31ms/step 32ms/step 32ms/step 32ms/step 32ms/step 37ms/step 40ms/step 36ms/step 28ms/step 36ms/step 36ms/step 35ms/step 32ms/step 32ms/step 32ms/step 33ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step 35ms/step 30ms/step 30ms/step	_	loss:	0.0031

	_				
1/1					
1/1					
1/1	- 0s	37ms/step			
1/1					
1/1	<b>-</b> 0s	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	- 0s	33ms/step			
1/1					
1/1	<b>-</b> 0s	28ms/step			
1/1					
1/1	<b>-</b> 0s	29ms/step			
1/1					
1/1					
1/1			-	loss:	0.0051
1/1	<b>-</b> 0s	28ms/step			
1/1					
1/1	<b>-</b> 0s	32ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	- 0s	32ms/step			
1/1					
1/1	- 0s	25ms/step			
1/1					
1/1					
1/1					
1/1 ———————————————————————————————————					
1/1					
1/1					
1/1 ———————————————————————————————————	05	32ms/step			
1/1				1000	0 0024
1/1					
1/1			-	1055.	0.0023
1/1					
1/1					
1/1	- 0s	20113/3cep			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	- 05	37ms/sten			
1/1					
1/1	- 0s	29ms/sten			
1/1					
1/1	- 0s	34ms/step			
	_	. · F			

```
1/1 -
             Os 29ms/step
              Os 28ms/step
1/1 ---
                —— 0s 29ms/step
1/1 ---
                  - 0s 29ms/step
                  – 0s 32ms/step - loss: 0.0367
1/1 -
1/1 ——— 0s 37ms/step - loss: 0.0345
Epoch: 062/149 | Loss: 0.0345 | Episodes: 294 | Win count: 3 | Win rate: 0.048 | tim
e: 6.99 minutes
                —— 0s 30ms/step
1/1 -
                  - 0s 27ms/step
1/1 -----
         0s 32ms/step
1/1 -----
               Os 32ms/step
                —— 0s 30ms/step
1/1 ---
1/1
                  - 0s 35ms/step
                  - 0s 32ms/step
1/1 -
                  - 0s 31ms/step
1/1 -
1/1 -
                  - 0s 33ms/step
1/1 ---
                —— 0s 30ms/step
                  - 0s 32ms/step
1/1 -
1/1 -
                  - 0s 32ms/step
                —— 0s 30ms/step
1/1 -
                  - 0s 45ms/step
1/1 ———— 0s 34ms/step
                  - 0s 30ms/step
1/1 -
                  - 0s 29ms/step
1/1 -
1/1 ---- 0s 30ms/step
                  - 0s 30ms/step
                  - 0s 28ms/step
1/1 -
1/1 ——— 0s 38ms/step - loss: 0.0022
                  - 0s 28ms/step
1/1 -
                 — 0s 31ms/step
                  - 0s 36ms/step
                  - 0s 36ms/step
1/1 -
1/1 -----
            Os 36ms/step
1/1 -
                  - 0s 31ms/step
1/1 -
                 — 0s 29ms/step
1/1 0s 29ms/step
                  - 0s 30ms/step
1/1 -
                  - 0s 26ms/step
1/1 -
                  - 0s 36ms/step
1/1 -
1/1 0s 29ms/step
                  - 0s 29ms/step
1/1 -
                  — 0s 27ms/step
                  - 0s 26ms/step
                  - 0s 30ms/step
1/1 -
1/1 -
                —— 0s 30ms/step
1/1 -
                  - 0s 35ms/step
                  - 0s 35ms/step
1/1 -
1/1 0s 30ms/step
                  – 0s 35ms/step - loss: 0.0028
1/1 -
    0s 43ms/step - loss: 0.0031
1/1 -
               Os 36ms/step
1/1 -
1/1 -
         Os 31ms/step
      Os 30ms/step
1/1 -
1/1 ---- 0s 31ms/step
```

1/1					
1/1					
1/1	0s	26ms/step			
1/1	0s	27ms/step			
1/1	0s	28ms/step			
1/1	0s	32ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	30ms/step			
1/1					
1/1	05	34ms/step			
1/1					
1/1					
1/1			_	1055.	0 0014
1/1					
1/1				1033.	0.0010
1/1	05	20ms/step			
1/1					
1/1	05	3/ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	2/ms/step			
1/1	05	20ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	24ms/step			
1/1				1	0 0012
1/1	05	28ms/step	-	1055:	0.0013
1/1			-	1055:	0.0017
1/1					
1/1					
1/1	05	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	אוורר / ארבי / ארבי / ארבי			
1/1	05	20mc/c+05			
1/1					
1/1					
1/1	03	32mc/c+an			
-/-	03	72113/3CEP			

```
1/1 -
              Os 29ms/step
               Os 31ms/step
                 --- 0s 30ms/step
1/1 ---
1/1 -
                   - 0s 27ms/step
                   – 0s 32ms/step - loss: 0.0039
1/1 -
1/1 ——— 0s 32ms/step - loss: 0.0042
Epoch: 063/149 | Loss: 0.0042 | Episodes: 299 | Win count: 3 | Win rate: 0.047 | tim
e: 7.11 minutes
                 Os 25ms/step
1/1 -
                   - 0s 34ms/step
1/1 -----
         0s 28ms/step
1/1 -----
                Os 26ms/step
                 — 0s 34ms/step
1/1 -
                   - 0s 46ms/step
1/1 -
                   - 0s 40ms/step
1/1 -
                   - 0s 35ms/step
1/1 -
1/1 -
                   - 0s 32ms/step
                 —— 0s 31ms/step
1/1 ----
                   - 0s 29ms/step
1/1 -
1/1 -
                   - 0s 28ms/step
                 —— 0s 29ms/step
1/1 -
                   - 0s 28ms/step
1/1 ———— 0s 31ms/step
                   - 0s 44ms/step
1/1 -
                   - 0s 31ms/step
1/1 -
         0s 26ms/step
                   - 0s 31ms/step
                   - 0s 33ms/step
1/1 -
1/1 ———— 0s 34ms/step - loss: 7.4915e-04
1/1 Os 35ms/step - loss: 8.5116e-04
                   - 0s 36ms/step
1/1 -
                  — 0s 32ms/step
                   - 0s 26ms/step
                   - 0s 32ms/step
1/1 -
               Os 33ms/step
1/1 -----
1/1 -
                   - 0s 28ms/step
1/1 -
                  -- 0s 30ms/step
- 0s 30ms/step
1/1 -
                   - 0s 38ms/step
1/1 -
                   - 0s 32ms/step
1/1 -
1/1 0s 29ms/step
                   - 0s 32ms/step
1/1 -
                   — 0s 29ms/step
                   - 0s 40ms/step
                   - 0s 29ms/step
1/1 -
1/1 -
                 —— 0s 27ms/step
1/1 -
                   - 0s 34ms/step
                   - 0s 36ms/step
1/1 -
               Os 37ms/step
                   – 0s 37ms/step - loss: 0.0049
1/1 -
    0s 41ms/step - loss: 0.0046
1/1 -
                Os 36ms/step
1/1 -
           Os 38ms/step
1/1 -
       Os 27ms/step
1/1 -
           Os 41ms/step
```

```
1/1 -
                     —— 0s 33ms/step
                       - 0s 30ms/step
                       - 0s 31ms/step
1/1 -
1/1 -
                        - 0s 33ms/step
                        - 0s 28ms/step
1/1 -
                        - 0s 27ms/step
1/1 ----
1/1 -
                        - 0s 31ms/step
1/1 -
                        - 0s 25ms/step
                        0s 35ms/step
1/1 -
                        - 0s 38ms/step
                        - 0s 31ms/step
1/1 -
1/1 -----
                        - 0s 34ms/step
                       - 0s 36ms/step
1/1 -
                        - 0s 40ms/step
1/1 -
                       - 0s 29ms/step
1/1 -
                        - 0s 32ms/step
1/1 -
                       - 0s 35ms/step - loss: 0.0074
1/1 -
1/1 ——— 0s 32ms/step - loss: 0.0059
Epoch: 064/149 | Loss: 0.0059 | Episodes: 302 | Win count: 3 | Win rate: 0.046 | tim
e: 7.19 minutes
1/1 -----
                       - 0s 30ms/step
                       - 0s 29ms/step
1/1 -
1/1 -----
                        - 0s 27ms/step
                       - 0s 30ms/step
1/1 -
                       - 0s 30ms/step
1/1 -
                     —— 0s 28ms/step
1/1 -
                       - 0s 29ms/step
                        - 0s 45ms/step
1/1 -
1/1 -
                       - 0s 42ms/step
                     —— 0s 35ms/step
1/1 -----
                       - 0s 28ms/step
1/1 -
                       - 0s 30ms/step
                        - 0s 30ms/step
                        - 0s 33ms/step
1/1 -
                       - 0s 30ms/step
1/1 -
1/1 -
                       - 0s 39ms/step
1/1 -
                       - 0s 28ms/step
                       0s 28ms/step
                       - 0s 39ms/step
1/1 -
                        - 0s 37ms/step
1/1 -
                       – 0s 37ms/step - loss: 0.0034
1/1 -
1/1 ---
                     --- 0s 40ms/step - loss: 0.0028
                        - 0s 32ms/step
1/1 -
                       - 0s 31ms/step
                        - 0s 35ms/step
                        - 0s 38ms/step
1/1 -
1/1 -
                        - 0s 31ms/step
1/1 -
                       - 0s 31ms/step
                        - 0s 31ms/step
1/1 -
                       - 0s 29ms/step
1/1 -
                        - 0s 31ms/step
1/1 -
                        - 0s 29ms/step
                        - 0s 30ms/step
1/1 -
1/1 -
                       - 0s 28ms/step
                       - 0s 31ms/step
1/1 -
                   ____ 0s 32ms/step
```

1/1	0s	31ms/step			
1/1					
1/1	0s	33ms/step			
1/1	0s	28ms/step			
1/1	0s	30ms/step			
1/1	0s	38ms/step			
1/1	0s	34ms/step	-	loss:	0.0063
1/1	0s	40ms/step	-	loss:	0.0060
1/1	0s	25ms/step			
1/1					
1/1	0s	31ms/step			
1/1	0s	29ms/step			
1/1	0s	24ms/step			
1/1					
1/1	0s	38ms/step			
1/1	0s	36ms/step			
1/1	0s	49ms/step			
1/1	0s	31ms/step			
1/1	0s	33ms/step			
1/1	0s	31ms/step			
1/1	0s	35ms/step			
1/1	0s	34ms/step			
1/1	0s	43ms/step			
1/1	0s	38ms/step			
1/1	0s	38ms/step			
1/1	0s	40ms/step			
1/1					
1/1	0s	31ms/step			
1/1	0s	33ms/step	_	loss:	0.0368
1/1	0s	31ms/step	-	loss:	0.0348
1/1					
1/1	0s	30ms/step			
1/1	0s	33ms/step			
1/1	0s	27ms/step			
1/1	0s	30ms/step			
1/1	0s	25ms/step			
1/1	0s	25ms/step			
1/1	0s	30ms/step			
1/1	0s	29ms/step			
1/1	0s	35ms/step			
1/1	0s	33ms/step			
1/1	0s	35ms/step			
1/1	0s	30ms/step			
1/1	0s	30ms/step			
1/1	0s	28ms/step			
1/1	0s	23ms/step			
1/1	0s	32ms/step			
1/1	0s	35ms/step			
1/1	0s	33ms/step			
1/1					
1/1	0s	33ms/step	-	loss:	0.0018
1/1	0s	34ms/step	-	loss:	0.0027
1/1	0s	42ms/step			
1/1	0s	31ms/step			
1/1	0s	35ms/step			
1/1	0s	31ms/step			

1/1	۵c	33mc/stan			
1/1					
1/1					
1/1	05	301115/Step			
1/1	05	2/ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	30ms/step			
1/1	0s	30ms/step			
1/1	0s	33ms/step			
1/1	0s	28ms/step			
1/1					
1/1	0s	25ms/step			
1/1	0s	32ms/step	-	loss:	0.0016
1/1					
1/1	0s	25ms/step			
1/1	0s	26ms/step			
1/1					
1/1	05	29ms/sten			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	29ms/step			
1/1	05	25ms/step			
1/1	05	20ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	29ms/step			
1/1	05	34ms/step		-	
1/1	0s	36ms/step	-	loss:	0.0029
1/1	0s	37ms/step	-	loss:	0.0033
1/1					
1/1					
1/1	0s	27ms/step			
1/1	0s	28ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	32ms/step			
1/1	0s	34ms/step			
1/1					
1/1					
1/1	0s	33ms/step			
1/1	0s	35ms/step			

```
1/1 -
             Os 30ms/step
              Os 29ms/step
1/1 ---
                —— 0s 31ms/step
1/1 ---
                  - 0s 29ms/step
                  – 0s 32ms/step - loss: 0.0066
1/1 -
1/1 ———— 0s 50ms/step - loss: 0.0068
Epoch: 065/149 | Loss: 0.0068 | Episodes: 309 | Win count: 3 | Win rate: 0.045 | tim
e: 7.37 minutes
                Os 32ms/step
1/1 -
                  - 0s 31ms/step
1/1 ——— 0s 32ms/step
1/1 -----
               ____ 0s 26ms/step
                 —— 0s 36ms/step
1/1 ---
                  - 0s 28ms/step
1/1 -
                  - 0s 28ms/step
1/1 -
                   - 0s 31ms/step
1/1 -
1/1 -
                  - 0s 31ms/step
                Os 34ms/step
1/1 ---
                  - 0s 35ms/step
1/1 -
1/1 -
                  — 0s 32ms/step
                Os 35ms/step
1/1 -
                  - 0s 39ms/step
1/1 ———— 0s 30ms/step
                  - 0s 32ms/step
1/1 -
                  - 0s 33ms/step
1/1 -
1/1 ——— 0s 32ms/step
                  - 0s 31ms/step
                   - 0s 26ms/step
1/1 -
1/1 ——— 0s 32ms/step - loss: 0.0020
                  - 0s 30ms/step
1/1 -
                 --- 0s 30ms/step
                  - 0s 37ms/step
                   - 0s 33ms/step
1/1 -
1/1 -----
            Os 37ms/step
1/1 -
                  - 0s 47ms/step
1/1 -
                 — 0s 32ms/step
1/1 0s 30ms/step
                  - 0s 28ms/step
1/1 -
                   - 0s 35ms/step
1/1 -
                  - 0s 32ms/step
1/1 ----
1/1 Os 30ms/step
                  - 0s 32ms/step
1/1 -
                  — 0s 27ms/step
                   - 0s 35ms/step
                  - 0s 34ms/step
1/1 -
1/1 -
                Os 33ms/step
1/1 -
                  - 0s 41ms/step
                  - 0s 31ms/step
1/1 -
1/1 0s 38ms/step
                  – 0s 39ms/step - loss: 0.0045
1/1 -
    0s 43ms/step - loss: 0.0042
1/1 -
               Os 42ms/step
1/1 -
          Os 33ms/step
1/1 -
      Os 26ms/step
1/1 -
1/1 0s 29ms/step
```

1/1	0s	28ms/step			
1/1					
1/1					
1/1	0s	29ms/step			
1/1					
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	29ms/sten			
1/1	05	34ms/step			
1/1	05	35ms/step			
1/1					
1/1					
1/1			_	1000	0 0030
1/1					
1/1			_	1033.	0.0028
1/1	05	26ms/step			
1/1					
1/1	05	26ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	36ms/step			
1/1	95	27ms/step			
1/1	05	26ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	25ms/step			
1/1	0s	24ms/step			
1/1	0s	28ms/step			
1/1	0s	29ms/step			
1/1	0s	57ms/step	-	loss:	0.0045
1/1			-	loss:	0.0038
1/1					
1/1					
1/1	0s	26ms/step			
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	30ms/step			
1/1	0s	30ms/step			
1/1					
1/1					
1/1	0s	33ms/step			
1/1	0s	35ms/step			

```
1/1 -
                0s 26ms/step
                    - 0s 35ms/step
                    - 0s 31ms/step
1/1 -
1/1 -
                     - 0s 29ms/step
                     - 0s 29ms/step - loss: 0.0026
1/1 -
                   --- 0s 31ms/step - loss: 0.0030
1/1 ----
1/1 -
                    - 0s 31ms/step
                     - 0s 30ms/step
                     - 0s 30ms/step
1/1 -
                    - 0s 32ms/step
                     - 0s 38ms/step
1/1 -
                     - 0s 37ms/step
1/1 -----
                    - 0s 26ms/step
1/1 -
                    - 0s 35ms/step
1/1 -
1/1 -
                    - 0s 35ms/step
1/1 -
                     - 0s 27ms/step
1/1 -
                    - 0s 41ms/step
                   — 0s 30ms/step
1/1 ----
                    - 0s 28ms/step
1/1 -
1/1 -
                    - 0s 31ms/step
                    - 0s 39ms/step
1/1 -
                    - 0s 35ms/step
1/1 -----
                  —— 0s 34ms/step
                    - 0s 32ms/step
1/1 -
                    - 0s 49ms/step
1/1 -
            0s 38ms/step
                    — 0s 34ms/step - loss: 0.0037
                     - 0s 45ms/step - loss: 0.0036
1/1 -
1/1 -----
                    - 0s 34ms/step
1/1 0s 37ms/step
                    - 0s 35ms/step
1/1 -
                    — 0s 31ms/step
                     - 0s 27ms/step
                     - 0s 38ms/step
1/1 -
1/1 -----
                  —— 0s 34ms/step
1/1 -
                    - 0s 32ms/step
1/1 -
                    - 0s 28ms/step
1/1 ---- 0s 28ms/step
                    - 0s 32ms/step
1/1 -
                     - 0s 30ms/step
1/1 -
                    - 0s 28ms/step
1/1 -
1/1 -----
           Os 33ms/step
                     - 0s 41ms/step
1/1 -
                    — 0s 29ms/step
                     - 0s 34ms/step
                    - 0s 27ms/step
1/1 -
            0s 32ms/step
1/1 ---
                 Os 28ms/step
1/1 -
1/1 -
                    — 0s 31ms/step - loss: 0.0031
1/1 ———— 0s 34ms/step - loss: 0.0035
Epoch: 066/149 | Loss: 0.0035 | Episodes: 316 | Win count: 3 | Win rate: 0.045 | tim
e: 7.55 minutes
                 Os 33ms/step
1/1 -----
        Os 26ms/step
1/1 ---
1/1 ———— Øs 28ms/step
1/1 ---- 0s 28ms/step
```

1/1	0s	29ms/step			
1/1					
1/1	0s	26ms/step			
1/1	0s	33ms/step			
1/1	0s	28ms/step			
1/1	0s	37ms/step			
1/1					
1/1	0s	35ms/step			
1/1					
1/1					
1/1	0s	41ms/step			
1/1					
1/1	0s	40ms/step			
1/1					
1/1	0s	27ms/step			
1/1					
1/1					
1/1			-	loss:	0.0027
1/1	0s	29ms/step			
1/1					
1/1	0s	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	29ms/step			
1/1					
1/1	0s	34ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	28ms/step			
1/1				_	
1/1	0s	38ms/step	-	loss:	0.0019
1/1			-	loss:	0.0019
1/1					
1/1					
1/1	0s	50ms/step			
1/1					
1/1	05	41ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	31ms/step			
1/1					
1/1	ØS	25ms/step			
1/1 ———————————————————————————————————					
1/1	ØS Oc	2/ms/step			
1/1	95	z/iiis/step			

```
1/1 -
               Os 31ms/step
                    - 0s 29ms/step
                    - 0s 28ms/step
1/1 -
                    - 0s 31ms/step
                    - 0s 37ms/step - loss: 0.0021
1/1 -
                  --- 0s 39ms/step - loss: 0.0024
1/1 ----
1/1 -
                    - 0s 30ms/step
                    - 0s 28ms/step
                    - 0s 32ms/step
1/1 -
                    - 0s 32ms/step
               Os 27ms/step
1/1 -
                    - 0s 28ms/step
1/1 -----
                    - 0s 29ms/step
1/1 -
                    - 0s 28ms/step
1/1 -
1/1 -
                    - 0s 28ms/step
                    - 0s 38ms/step
1/1 -
1/1 -
                    - 0s 36ms/step
                   — 0s 45ms/step
1/1 ---
                    - 0s 36ms/step
1/1 -
1/1 -
                    - 0s 44ms/step
                    - 0s 40ms/step
1/1 -
                    - 0s 36ms/step
1/1 -----
                  —— 0s 37ms/step
                    - 0s 28ms/step
1/1 -
                    - 0s 26ms/step
1/1 -
           0s 27ms/step
                    - 0s 34ms/step - loss: 0.0036
                    - 0s 37ms/step - loss: 0.0038
1/1 -
1/1 -----
                    - 0s 29ms/step
1/1 0s 37ms/step
                    - 0s 32ms/step
1/1 -
                   — 0s 31ms/step
                    - 0s 38ms/step
                    - 0s 26ms/step
1/1 -
1/1 -----
                  Os 35ms/step
1/1 -
                    - 0s 34ms/step
1/1 -
                    - 0s 32ms/step
1/1 0s 35ms/step
                    - 0s 28ms/step
1/1 -
                    - 0s 27ms/step
1/1 -
                    - 0s 29ms/step
1/1 -----
           Os 28ms/step
                    - 0s 28ms/step
1/1 -
                    — 0s 28ms/step
                    - 0s 29ms/step
                    - 0s 30ms/step
1/1 -
           0s 38ms/step
1/1 ---
                 Os 34ms/step
1/1 -
1/1 -
                    — 0s 38ms/step - loss: 0.0062
1/1 ———— 0s 30ms/step - loss: 0.0055
Epoch: 067/149 | Loss: 0.0055 | Episodes: 321 | Win count: 3 | Win rate: 0.044 | tim
e: 7.68 minutes
                 0s 29ms/step
1/1 -----
        Os 25ms/step
1/1 -
1/1 ———— Øs 28ms/step
1/1 ---- 0s 28ms/step
```

1/1					
1/1					
1/1	0s	39ms/step			
1/1	0s	36ms/step			
1/1	0s	29ms/step			
1/1	0s	37ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	29ms/step			
1/1	ØS.	40ms/step			
1/1					
1/1					
1/1					
1/1					
1/1			-	loss:	0.0047
1/1	0s	33ms/step			
1/1	0s	34ms/step			
1/1	0s	28ms/step			
1/1	0s	25ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	29ms/step			
1/1					
1/1	05	35ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	95	36ms/step			
1/1			_	1055.	0 0024
1/1	95	31ms/step	_	1055.	0.0021
1/1				1055.	0.0021
1/1					
1/1					
1/1	05	20ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	3/ms/step			
1/1	05	20ms/step			
1/1					
1/1					
1/1	02	20mc/step			
1/1	٥S	zəms/step			

1/1	0s	32ms/step			
1/1					
1/1	0s	27ms/step			
1/1	0s	25ms/step			
1/1	0s	39ms/step	-	loss:	0.0030
1/1	0s	34ms/step	-	loss:	0.0032
1/1					
1/1					
1/1					
1/1					
1/1	0s	29ms/step			
1/1					
1/1	0s	32ms/step			
1/1					
1/1	0s	36ms/step			
1/1					
1/1					
1/1					
1/1	0s	36ms/step			
1/1					
1/1	0s	36ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	34ms/step	-	loss:	0.0026
1/1			-	loss:	0.0027
1/1	0s	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	29ms/step			
1/1	05	32ms/step			
1/1	05	26ms/step			
1/1					
1/1					
1/1					
1/1	05	26ms/step			
1/1					
1/1					
1/1					
1/1					
1/1			_	1055.	0 0016
1/1					
1/1				1033.	0.0021
1/1	05	41ms/sten			
1/1	05	40ms/sten			
1/1					
1/1					
1/1	0s	28ms/sten			
• -		, эсер			

1/1	00	20mc/c+on			
1/1					
1/1					
1/1	05	2/ms/step			
1/1					
1/1	0s	29ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	26ms/step			
1/1	0s	27ms/step			
1/1	0s	34ms/step			
1/1	0s	30ms/step			
1/1	0s	44ms/step	-	loss:	0.0028
1/1	0s	29ms/step	_	loss:	0.0031
1/1	0s	35ms/step			
1/1	0s	34ms/step			
1/1					
1/1					
1/1					
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	95	31ms/step			
1/1					
1/1	05	28ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1			_	1000	0 0055
1/1					
1/1			_	1033.	0.0047
1/1					
1/1					
1/1					
1/1					
1/1	05	32ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	Øs	2/ms/step			
1/1	0s	30ms/step			
1/1					
1/1					
1/1	Øs	42ms/step			
1/1	0s	43ms/step			

```
1/1 -
                Os 38ms/step
                     - 0s 36ms/step
                    — 0s 38ms/step - loss: 0.0029
1/1 -
1/1 -
                     - 0s 35ms/step - loss: 0.0028
                     - 0s 40ms/step
1/1 -
                    - 0s 29ms/step
1/1 -----
                     - 0s 28ms/step
1/1 -
                     - 0s 29ms/step
                     - 0s 34ms/step
1/1 -
                     - 0s 40ms/step
                     - 0s 28ms/step
1/1 -
                     - 0s 26ms/step
1/1 -----
                     - 0s 32ms/step
1/1 -
                     - 0s 30ms/step
1/1 -
                     - 0s 27ms/step
1/1 -
                     0s 26ms/step
1/1 -
1/1 -
                     - 0s 28ms/step
                    — 0s 28ms/step
1/1 ---
                     - 0s 28ms/step
1/1 -
1/1 -
                     - 0s 30ms/step
                     - 0s 32ms/step
1/1 -
                     - 0s 25ms/step
1/1 -----
                   —— 0s 32ms/step
                     - 0s 31ms/step
1/1 -
                     ─ 0s 33ms/step - loss: 0.0035
1/1 -
                Os 33ms/step - loss: 0.0031
                     - 0s 32ms/step
                     - 0s 42ms/step
1/1 -
1/1 -----
                     - 0s 30ms/step
1/1 0s 39ms/step
                     - 0s 31ms/step
1/1 -
                     — 0s 34ms/step
                     - 0s 29ms/step
                     - 0s 30ms/step
1/1 -
1/1 -----
                   — 0s 28ms/step
1/1 -
                     - 0s 29ms/step
1/1 -
                     - 0s 30ms/step
                     - 0s 26ms/step
                     - 0s 26ms/step
1/1 -
                     - 0s 31ms/step
1/1 -
                     - 0s 29ms/step
1/1 -
1/1 Os 30ms/step
                     - 0s 28ms/step
1/1 -
                     — 0s 34ms/step
                     - 0s 35ms/step
                     - 0s 32ms/step
1/1 -
               Os 35ms/step - loss: 0.0034
1/1 -
       0s 34ms/step - loss: 0.0035
Epoch: 068/149 | Loss: 0.0035 | Episodes: 331 | Win count: 3 | Win rate: 0.043 | tim
e: 7.93 minutes
                     - 0s 26ms/step
1/1 -
1/1 — 0s 30ms/step
1/1 ---
                     - 0s 30ms/step
1/1 -----
                ----- 0s 27ms/step
                     - 0s 30ms/step
1/1 -
            0s 29ms/step
```

1/1					
1/1					
1/1					
1/1					
1/1	0s	28ms/step			
1/1					
1/1	0s	30ms/step			
1/1	0s	35ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	35ms/step	-	loss:	0.0059
1/1	0s	33ms/step	-	loss:	0.0055
1/1					
1/1					
1/1					
1/1					
1/1	0s	29ms/step			
1/1					
1/1	0s	38ms/step			
1/1	0s	28ms/step			
1/1					
1/1	0s	38ms/step			
1/1	0s	28ms/step			
1/1					
1/1	0s	26ms/step			
1/1	0s	28ms/step			
1/1	0s	41ms/step			
1/1	0s	29ms/step			
1/1	0s	34ms/step			
1/1					
1/1					
1/1					
1/1	0s	31ms/step	-	loss:	0.0030
1/1			-	loss:	0.0031
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	32ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	36ms/step			
1/1	0s	26ms/step			
1/1					
1/1	0s	28ms/step			

```
1/1 -
           Os 29ms/step
             Os 32ms/step
          Os 47ms/step - loss: 0.0389
                 - 0s 41ms/step - loss: 0.0364
                - 0s 34ms/step
1/1 -
1/1 0s 39ms/step
1/1 -
                - 0s 31ms/step
               Os 31ms/step
         0s 32ms/step
1/1 -
                — 0s 29ms/step
    0s 30ms/step
1/1 -
1/1 Os 27ms/step
          Os 29ms/step
1/1 -
    0s 27ms/step
               --- 0s 28ms/step
1/1 -
                 0s 28ms/step
1/1 -
     0s 36ms/step
1/1 -
1/1 ----
         Os 29ms/step
                - 0s 30ms/step
1/1 -
               —— 0s 44ms/step
    0s 35ms/step
1/1 -
                - 0s 41ms/step
1/1 ——— 0s 36ms/step
       0s 42ms/step
1/1 -
          Os 40ms/step - loss: 0.0029
1/1 -
1/1 ---- 0s 48ms/step - loss: 0.0032
Epoch: 069/149 | Loss: 0.0032 | Episodes: 335 | Win count: 3 | Win rate: 0.043 | tim
e: 8.03 minutes
               Os 30ms/step
1/1 -
1/1 — 0s 33ms/step
                - 0s 34ms/step
             Os 32ms/step
                - 0s 34ms/step
                 - 0s 35ms/step
1/1 -
1/1 0s 39ms/step
1/1 -
              —— 0s 34ms/step
1/1 -
          Os 31ms/step
1/1 ...... 0s 33ms/step
                — 0s 31ms/step
1/1 -
     0s 37ms/step
1/1 -
     Os 31ms/step
1/1 0s 29ms/step
                - 0s 32ms/step
1/1 -
        Os 28ms/step
                 - 0s 29ms/step
                - 0s 32ms/step
1/1 -
      0s 36ms/step
1/1 ---
             Os 41ms/step
1/1 -
             Os 38ms/step - loss: 0.0033
1/1 -
1/1 ———— 0s 33ms/step - loss: 0.0040
Epoch: 070/149 | Loss: 0.0040 | Episodes: 336 | Win count: 4 | Win rate: 0.056 | tim
e: 8.06 minutes
1/1 -----
             Os 35ms/step
1/1 0s 38ms/step
1/1 ———— 0s 26ms/step
1/1 ...... 0s 34ms/step
```

	_				
1/1					
1/1					
1/1	0s	35ms/step			
1/1					
1/1	0s	28ms/step			
1/1	0s	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	29ms/step			
1/1	<b>0</b> S	28ms/step			
1/1					
1/1					
1/1					
1/1					
1/1			-	loss:	0.0037
1/1	0s	33ms/step			
1/1					
1/1					
1/1	95	37ms/sten			
1/1					
1/1					
1/1					
1/1					
1/1	05	32ms/step			
1/1					
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1	0s	42ms/step			
1/1					
1/1	0s	47ms/step			
1/1	0s	38ms/step			
1/1					
1/1					
1/1			_	loss:	0.0026
1/1	95	28ms/step	_	1055.	0.0020
1/1				1033.	0.0050
1/1					
1/1					
1/1	05	28ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	29ms/step			
1/1	0s	25ms/step			
1/1	0s	37ms/sten			
1/1					
1/1					
1/1	05	31ms/sten			
-, -	23	55, 5ccp			

1/1					
1/1	0s	29ms/step			
1/1	0s	32ms/step			
1/1	0s	26ms/step			
1/1			-	loss:	0.0051
1/1					
1/1					
1/1					
1/1	0s	26ms/step			
1/1					
1/1					
1/1	0s	32ms/step			
1/1					
1/1	0s	42ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	95	27ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1			_	loss:	0.0056
1/1	0s	36ms/step	_	loss:	0.0054
1/1	0s	40ms/step			
1/1	0s	32ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	38ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1			-	loss:	0.0042
1/1	0s	34ms/step			
1/1	0s	30ms/step			
1/1					
1/1					
1/1 ———————————————————————————————————	ØS	29ms/step			
1/1	US	3⊥ms/step			

```
1/1 -
                    Os 38ms/step
                      - 0s 36ms/step
                      - 0s 28ms/step
1/1 -
1/1 -
                      - 0s 31ms/step
                      - 0s 28ms/step
1/1 -
                      - 0s 29ms/step
1/1 ----
1/1 -
                      - 0s 35ms/step
                      - 0s 42ms/step
                      - 0s 31ms/step
1/1 -
                      - 0s 36ms/step
                      - 0s 33ms/step
1/1 -
1/1 -----
                      - 0s 37ms/step
                      - 0s 28ms/step
1/1 -
                      - 0s 29ms/step
1/1 -
                      − 0s 37ms/step - loss: 0.0043
1/1 -
                      - 0s 37ms/step - loss: 0.0043
1/1 -
1/1 -
                      - 0s 30ms/step
1/1 ---
                     — 0s 29ms/step
                      - 0s 35ms/step
1/1 -
1/1 -
                      - 0s 30ms/step
                      - 0s 25ms/step
                      - 0s 43ms/step
1/1 -
1/1 -----
                    — 0s 41ms/step
                      - 0s 41ms/step
1/1 -
                      - 0s 33ms/step
1/1 -
                 Os 32ms/step
                      - 0s 37ms/step
                      - 0s 30ms/step
1/1 -
1/1 -----
                      - 0s 33ms/step
                    --- 0s 35ms/step
1/1 -----
                      - 0s 31ms/step
1/1 -
                      - 0s 31ms/step
                      - 0s 29ms/step
                      - 0s 27ms/step
1/1 -
1/1 -----
                    —— 0s 25ms/step
1/1 -----
                      - 0s 40ms/step
1/1 -
                   --- 0s 28ms/step - loss: 0.0037
1/1 ———— 0s 32ms/step - loss: 0.0034
Epoch: 071/149 | Loss: 0.0034 | Episodes: 343 | Win count: 4 | Win rate: 0.056 | tim
e: 8.24 minutes
1/1 -----
                      - 0s 27ms/step
1/1 0s 30ms/step
                      - 0s 25ms/step
1/1 -
                     — 0s 30ms/step
                      - 0s 30ms/step
                      - 0s 33ms/step
1/1 -
1/1 -
                    — 0s 29ms/step
1/1 -
                      - 0s 32ms/step
                      - 0s 24ms/step
1/1 -
                      - 0s 26ms/step
1/1 -
                      - 0s 30ms/step
1/1 -
                      - 0s 28ms/step
                      - 0s 31ms/step
1/1 -
1/1 -
                 ----- 0s 35ms/step
                      - 0s 34ms/step
1/1 -
             0s 32ms/step
```

1/1	0s	40ms/step			
1/1					
1/1	0s	32ms/step			
1/1	0s	27ms/step			
1/1	0s	30ms/step	-	loss:	0.0026
1/1	0s	36ms/step	-	loss:	0.0028
1/1					
1/1					
1/1					
1/1					
1/1	0s	33ms/step			
1/1					
1/1	0s	29ms/step			
1/1					
1/1	0s	33ms/step			
1/1					
1/1					
1/1					
1/1	0s	32ms/step			
1/1					
1/1	0s	27ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	30ms/step	-	loss:	0.0030
1/1			-	loss:	0.0029
1/1	0s	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	31ms/step			
1/1	05	30ms/step			
1/1	05	41ms/step			
1/1					
1/1					
1/1					
1/1	05	37ms/step			
1/1					
1/1					
1/1					
1/1					
1/1			_	1055.	a aa1a
1/1					
1/1			_	1033.	0.0011
1/1	96	26ms/step			
1/1	95	29ms/sten			
1/1					
1/1					
1/1	05	34ms/sten			
-, <b>-</b>	55	55, 5 ccp			

1/1	۵c	30mc/stan			
1/1					
1/1					
1/1	05	30ms/step			
1/1					
1/1	0s	45ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	32ms/step			
1/1	0s	28ms/step			
1/1	0s	31ms/step			
1/1					
1/1	05	31ms/step			
1/1			_	1055.	0 0031
1/1					
1/1				1033.	0.0055
1/1					
1/1					
1/1	05	33ms/step			
1/1					
1/1	0s	33ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	33ms/step			
1/1					
1/1	0s	35ms/step			
1/1					
1/1					
1/1					
1/1	0s	29ms/step			
1/1					
1/1	0s	33ms/step			
1/1	0s	37ms/step			
1/1	0s	34ms/step	_	loss:	0.0316
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	27ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	22mc/c+on			
1/1	62	20mc/s+02			
1/1					
1/1					
1/1	05	20ms/step			
1/1	62	zallis/steb			

```
1/1 -
                Os 33ms/step
                    - 0s 37ms/step
                    — 0s 31ms/step - loss: 0.0043
1/1 -
1/1 -
                     - 0s 36ms/step - loss: 0.0048
                     - 0s 33ms/step
1/1 -
                    — 0s 30ms/step
1/1 ----
1/1 -
                     - 0s 28ms/step
                     - 0s 38ms/step
                     - 0s 30ms/step
1/1 -
                     0s 34ms/step
                     - 0s 29ms/step
1/1 -
                     - 0s 30ms/step
1/1 -----
                     - 0s 32ms/step
1/1 -
                     - 0s 27ms/step
1/1 -
1/1 -
                    - 0s 32ms/step
                     0s 29ms/step
1/1 -
1/1 -
                     - 0s 34ms/step
                   — 0s 36ms/step
1/1 ---
                     - 0s 32ms/step
1/1 -
1/1 -
                    - 0s 44ms/step
                     - 0s 30ms/step
1/1 -
                     - 0s 35ms/step
1/1 -----
                   —— 0s 31ms/step
                     - 0s 28ms/step
1/1 -
                    - 0s 31ms/step - loss: 0.0029
1/1 -
                0s 29ms/step - loss: 0.0029
                    - 0s 31ms/step
                     - 0s 33ms/step
1/1 -
1/1 -----
                     - 0s 28ms/step
1/1 Os 25ms/step
                     - 0s 34ms/step
1/1 -
                    — 0s 29ms/step
                     - 0s 28ms/step
                     - 0s 31ms/step
1/1 -
1/1 -----
                   --- 0s 40ms/step
1/1 -
                     - 0s 30ms/step
1/1 -
                    - 0s 36ms/step
                    - 0s 33ms/step
                    - 0s 29ms/step
1/1 -
                     - 0s 34ms/step
1/1 -
                     - 0s 32ms/step
1/1 -
1/1 0s 33ms/step
                     - 0s 25ms/step
1/1 -
                    — 0s 28ms/step
                     - 0s 31ms/step
                     - 0s 31ms/step
1/1 -
1/1 -
                Os 33ms/step - loss: 0.0058
       0s 34ms/step - loss: 0.0058
Epoch: 072/149 | Loss: 0.0058 | Episodes: 351 | Win count: 4 | Win rate: 0.055 | tim
e: 8.44 minutes
                     - 0s 28ms/step
1/1 -
- 0s 41ms/step
1/1 -
1/1 -----
                OS 40ms/step
                    - 0s 32ms/step
1/1 -
            0s 34ms/step
```

1/1	0s	30ms/step			
1/1					
1/1					
1/1	05	35ms/sten			
1/1					
1/1	05	29ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	3/ms/step			
1/1	05	35ms/step			
1/1 ———————————————————————————————————	05	2/ms/step			
				1	0 0201
1/1	05	42ms/step	-	1055:	0.0291
1/1			-	Toss:	0.0286
1/1					
1/1					
1/1	0s	29ms/step			
1/1					
1/1	0s	37ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	32ms/step			
1/1	0s	33ms/step			
1/1	0s	32ms/step			
1/1	0s	29ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	44ms/step	-	loss:	0.0043
1/1	0s	28ms/step	-	loss:	0.0043
1/1	0s	27ms/step			
1/1					
1/1					
1/1					
1/1	0s	36ms/step			
1/1	0s	29ms/step			
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1	0s	37ms/step			
1/1	0s	31ms/step			
1/1	0s	31ms/step			
1/1	0s	29ms/step			
1/1					
1/1	0s	31ms/step			
1/1					
1/1	0s	32ms/step			
-	-	-,			

```
1/1 -----
            Os 29ms/step
    0s 32ms/step
1/1 — Os 36ms/step - loss: 0.0061
1/1 — Os 35ms/step - loss: 0.0058
Epoch: 073/149 | Loss: 0.0058 | Episodes: 354 | Win count: 4 | Win rate: 0.054 | tim
e: 8.52 minutes
1/1 -
                   - 0s 30ms/step
1/1 -
                 —— 0s 30ms/step
          0s 26ms/step
1/1 -
                  — 0s 28ms/step
    Os 32ms/step
1/1 -
1/1 Os 28ms/step
                 —— 0s 26ms/step
1/1 -
                   - 0s 28ms/step
1/1 -
                  -- 0s 29ms/step
1/1 -
                   0s 29ms/step
1/1 -
1/1 -
                   - 0s 31ms/step
                ---- 0s 28ms/step
1/1 ----
                   - 0s 29ms/step
1/1 -
                  -- 0s 27ms/step
                 —— 0s 31ms/step
1/1 -
                   - 0s 26ms/step
1/1 ———— 0s 31ms/step
                   - 0s 28ms/step
1/1 -
                  - 0s 30ms/step
1/1 -
          0s 32ms/step
                   — 0s 45ms/step - loss: 0.0035
                   - 0s 45ms/step - loss: 0.0033
1/1 -
1/1 — 0s 37ms/step
1/1 0s 32ms/step
                   - 0s 27ms/step
1/1 -
                 — 0s 34ms/step
                   - 0s 27ms/step
                   - 0s 30ms/step
1/1 -
         0s 30ms/step
1/1 -----
1/1 -
                   - 0s 29ms/step
1/1 -
                 — 0s 51ms/step
1/1 0s 35ms/step
                   - 0s 30ms/step
1/1 -
                   - 0s 37ms/step
1/1 -
                   - 0s 30ms/step
1/1 Os 31ms/step
                   - 0s 30ms/step
1/1 -
                 --- 0s 28ms/step
                   - 0s 30ms/step
                   - 0s 35ms/step
1/1 -
                Os 40ms/step
1/1 -
1/1 -
                   - 0s 27ms/step
                   − 0s 31ms/step - loss: 0.0034
              Os 29ms/step - loss: 0.0031
1/1 -
                   - 0s 29ms/step
    0s 27ms/step
1/1 -
               Os 27ms/step
1/1 -
1/1 -
          Os 27ms/step
       0s 33ms/step
1/1 -
          0s 31ms/step
```

```
1/1 -
                    —— 0s 26ms/step
                      - 0s 32ms/step
                      - 0s 25ms/step
1/1 -
1/1 -
                      - 0s 25ms/step
                      - 0s 26ms/step
1/1 -
                      - 0s 32ms/step
1/1 ----
1/1 -
                      - 0s 31ms/step
                      - 0s 34ms/step
                      - 0s 43ms/step
1/1 -
                      - 0s 47ms/step
                      - 0s 35ms/step
1/1 -
                      - 0s 27ms/step
1/1 -----
                      - 0s 35ms/step
1/1 -
                      - 0s 29ms/step
1/1 -
                      – 0s 36ms/step - loss: 0.0032
1/1 -
                      - 0s 32ms/step - loss: 0.0030
1/1 -
1/1 -
                      - 0s 23ms/step
1/1 ---
                     - 0s 29ms/step
                      - 0s 30ms/step
1/1 -
1/1 -
                      - 0s 33ms/step
                      - 0s 32ms/step
1/1 -
                      - 0s 33ms/step
1/1 -----
                    — 0s 34ms/step
                      - 0s 28ms/step
1/1 -
                      - 0s 43ms/step
1/1 -
                  0s 38ms/step
                      - 0s 30ms/step
                      - 0s 30ms/step
1/1 -
1/1 -----
                      - 0s 27ms/step
                    --- 0s 27ms/step
1/1 -----
                      - 0s 27ms/step
1/1 -
                      - 0s 31ms/step
                      - 0s 30ms/step
                      - 0s 34ms/step
1/1 -
1/1 -----
                    —— 0s 33ms/step
1/1 -----
                   ---- 0s 29ms/step
1/1 -
                   —— 0s 31ms/step - loss: 0.0037
1/1 ———— 0s 35ms/step - loss: 0.0033
Epoch: 074/149 | Loss: 0.0033 | Episodes: 358 | Win count: 4 | Win rate: 0.053 | tim
e: 8.62 minutes
1/1 -----
                      - 0s 32ms/step
1/1 0s 30ms/step
                      - 0s 28ms/step
1/1 -
                     — 0s 31ms/step
                      - 0s 33ms/step
                      - 0s 39ms/step
1/1 -
1/1 -
                    — 0s 34ms/step
1/1 -
                      - 0s 35ms/step
                      - 0s 35ms/step
1/1 -
                    — 0s 33ms/step
1/1 -
                      - 0s 30ms/step
1/1 -
                      - 0s 28ms/step
                      - 0s 32ms/step
1/1 -
                 Os 32ms/step
1/1 -
                      - 0s 27ms/step
1/1 -
             0s 38ms/step
```

1/1	0s	26ms/step			
1/1					
1/1	0s	31ms/step			
1/1	0s	29ms/step			
1/1	0s	34ms/step	_	loss:	0.0023
1/1					
1/1					
1/1					
1/1					
1/1	03	20113/3tep			
1/1	05	33ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	29ms/step			
1/1					
1/1	0s	28ms/step			
1/1					
1/1	0s	33ms/step			
1/1	0s	36ms/step			
1/1					
1/1					
1/1					
1/1	0s	29ms/step			
1/1			_	loss:	0.0019
1/1	0s	32ms/step	_	loss:	0.0022
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	95	29ms/sten			
1/1		36ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	32ms/step			
1/1					
1/1	05	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1			_	1055.	0 0034
1/1	05	10ms/step	_	1055.	0.0034
1/1				1033.	0.0055
1/1	96	28ms/sten			
1/1					
1/1					
1/1					
1/1					
-/-	03	5511137 3 CEP			

1/1	0.0	25mc/s+on			
1/1					
1/1	0s	35ms/step			
1/1					
1/1	0s	29ms/step			
1/1	0s	28ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	32ms/step			
1/1					
1/1	0s	30ms/step			
1/1					
1/1					
1/1			-	loss:	0.0024
1/1	0s	37ms/step			
1/1	0s	41ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	44ms/step			
1/1					
1/1	0s	27ms/step			
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
				1	0 0004
1/1					
1/1			-	loss:	0.0024
1/1					
1/1					
1/1					
1/1					
1/1	0s	41ms/step			
1/1	0s	37ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	ØS	34ms/step			
1/1	0s	34ms/step			
1/1					
1/1					
1/1	0s	31ms/step			
1/1	0s	29ms/step			

```
1/1 -
            Os 32ms/step
              Os 33ms/step
               Os 34ms/step - loss: 0.0021
1/1 ---
1/1 -
                  - 0s 34ms/step - loss: 0.0021
                  - 0s 36ms/step
1/1 -
1/1 Os 31ms/step
1/1 -
                 - 0s 32ms/step
                — 0s 30ms/step
               --- 0s 33ms/step
1/1 -
                 — 0s 41ms/step
    0s 39ms/step
1/1 -
1/1 Os 32ms/step
               ---- 0s 41ms/step
1/1 -
                 - 0s 35ms/step
1/1 -
                 — 0s 37ms/step
1/1 -
                  - 0s 38ms/step
1/1 -
     0s 28ms/step
1/1 -
1/1 -----
          Os 30ms/step
                 - 0s 33ms/step
1/1 -
1/1 -
                 — 0s 36ms/step
    0s 29ms/step
1/1 -
                 - 0s 39ms/step
1/1 ———— 0s 32ms/step
         Os 31ms/step
1/1 -
              Os 33ms/step - loss: 0.0022
1/1 -
1/1 ---- 0s 38ms/step - loss: 0.0022
Epoch: 075/149 | Loss: 0.0022 | Episodes: 365 | Win count: 4 | Win rate: 0.053 | tim
e: 8.80 minutes
                — 0s 40ms/step
1/1 -----
1/1 ———— 0s 46ms/step
                 - 0s 36ms/step
1/1 -
               —— 0s 33ms/step
                  - 0s 29ms/step
                  - 0s 31ms/step
1/1 -
1/1 ———— 0s 34ms/step
1/1 -
                — 0s 33ms/step
1/1 -
               —— 0s 32ms/step
1/1 ...... 0s 29ms/step
                 — 0s 32ms/step
1/1 -
                  - 0s 32ms/step
1/1 -
     0s 30ms/step
1/1 -----
1/1 0s 36ms/step
                  - 0s 33ms/step
1/1 -
              OS 31ms/step
                  - 0s 28ms/step
                  - 0s 39ms/step
1/1 -
      0s 40ms/step
1/1 ---
1/1 -
                — 0s 47ms/step
                 — 0s 45ms/step - loss: 0.0030
1/1 -
1/1 ——— 0s 40ms/step - loss: 0.0030
                  - 0s 32ms/step
1/1 -
1/1 ———— 0s 28ms/step
       Os 26ms/step
1/1 -
1/1 -
     Os 34ms/step
      Os 33ms/step
1/1 -
1/1 ---- 0s 28ms/step
```

```
1/1 -
                 Os 31ms/step
                     - 0s 37ms/step
                     - 0s 34ms/step
1/1 -
                     - 0s 39ms/step
1/1 -
                     - 0s 33ms/step
1/1 -
                     - 0s 48ms/step
1/1 -----
1/1 -
                     - 0s 43ms/step
                     - 0s 36ms/step
                     - 0s 35ms/step
1/1 -
                     - 0s 26ms/step
                     - 0s 32ms/step
1/1 -
1/1 -----
                     - 0s 33ms/step
                    - 0s 35ms/step
1/1 -
                     - 0s 35ms/step
1/1 -
                    — 0s 44ms/step - loss: 0.0338
1/1 -
                     - 0s 38ms/step - loss: 0.0328
1/1 -
1/1 -
                     - 0s 29ms/step
1/1 ----
                   — 0s 30ms/step
                     - 0s 32ms/step
1/1 -
1/1 -
                     - 0s 30ms/step
                     - 0s 28ms/step
1/1 -
                     - 0s 34ms/step
1/1 -----
                   —— 0s 40ms/step
                     - 0s 31ms/step
1/1 -
                     - 0s 31ms/step
1/1 -
            0s 33ms/step
                     - 0s 29ms/step
                     - 0s 29ms/step
1/1 -
1/1 -----
                     - 0s 33ms/step
1/1 Os 31ms/step
                     - 0s 28ms/step
1/1 -
                    — 0s 28ms/step
                     - 0s 25ms/step
                     - 0s 33ms/step
1/1 -
1/1 -----
                Os 36ms/step
1/1 -----
                Os 32ms/step
1/1 — Os 32ms/step - loss: 0.0023
1/1 — Os 33ms/step - loss: 0.0022
Epoch: 076/149 | Loss: 0.0022 | Episodes: 368 | Win count: 4 | Win rate: 0.052 | tim
e: 8.88 minutes
1/1 -----
                   Os 29ms/step
1/1 0s 37ms/step
                     - 0s 40ms/step
1/1 -
                    — 0s 31ms/step
                     - 0s 40ms/step
                     - 0s 33ms/step
1/1 -
1/1 ---
                   —— 0s 41ms/step
1/1 -
                     - 0s 47ms/step
                     - 0s 35ms/step
1/1 -
                 Os 33ms/step
1/1 -
                     - 0s 26ms/step
     Os 28ms/step
1/1 -
                     - 0s 30ms/step
1/1 -
1/1 -
            Os 25ms/step
                     - 0s 32ms/step
1/1 -
            0s 27ms/step
```

1/1					
1/1					
1/1	0s	32ms/step			
1/1					
1/1					
1/1			-	loss:	0.0032
1/1					
1/1					
1/1					
1/1					
1/1 ———————————————————————————————————	05	29ms/step			
1/1 ———————————————————————————————————	05	33ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1	0s	29ms/step			
1/1					
1/1					
1/1					
1/1			-	loss:	0.0024
1/1	0s	24ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	30ms/step			
1/1	0s	24ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1			-	loss:	0.0026
1/1	0s	35ms/step			
1/1	0s	26ms/step			
1/1 ———————————————————————————————————					
1/1					
1/1	05	אסר / כוויכר / ארב / ארב			
±/ ±	03	22113/3CEP			

```
1/1 -
               Os 29ms/step
                   - 0s 29ms/step
                   - 0s 30ms/step
1/1 ---
                    - 0s 29ms/step
1/1 -
                    - 0s 26ms/step
1/1 -
                  — 0s 32ms/step
1/1 -----
1/1 -
                   - 0s 38ms/step
                   - 0s 39ms/step
                   - 0s 39ms/step
1/1 -
                   - 0s 30ms/step
               Os 34ms/step
1/1 -
1/1 0s 29ms/step
                 —— 0s 25ms/step
1/1 -
1/1 -----
           0s 33ms/step
                   ── 0s 28ms/step - loss: 0.0046
1/1 -
          0s 35ms/step - loss: 0.0046
Epoch: 077/149 | Loss: 0.0046 | Episodes: 372 | Win count: 4 | Win rate: 0.051 | tim
e: 8.98 minutes
                  — 0s 37ms/step
1/1 -----
1/1 -
                  — 0s 28ms/step
    0s 29ms/step
1/1 -
                   - 0s 28ms/step
1/1 ———— 0s 31ms/step
                   - 0s 32ms/step
1/1 -
                   - 0s 33ms/step
1/1 -
1/1 _____ 0s 26ms/step
                   - 0s 26ms/step
                    - 0s 36ms/step
1/1 -
1/1 -----
                   - 0s 32ms/step
1/1 Os 31ms/step
                   - 0s 34ms/step
1/1 -
                  — 0s 33ms/step
                    - 0s 42ms/step
                    - 0s 29ms/step
1/1 -
               Os 30ms/step
1/1 -----
1/1 -
                   - 0s 30ms/step
1/1 -
                  — 0s 37ms/step
1/1 0s 33ms/step
                   - 0s 32ms/step - loss: 0.0028
1/1 -
                    - 0s 44ms/step - loss: 0.0028
1/1 -
                   - 0s 50ms/step
1/1 -
1/1 Os 28ms/step
                   - 0s 34ms/step
1/1 -
                   — 0s 32ms/step
                    - 0s 31ms/step
                   - 0s 31ms/step
1/1 -
1/1 -
                 --- 0s 30ms/step
1/1 -
                   - 0s 31ms/step
                   - 0s 32ms/step
1/1 -
               Os 29ms/step
1/1 -
                   - 0s 25ms/step
    Os 29ms/step
1/1 -
                   - 0s 38ms/step
1/1 -
           0s 38ms/step
1/1 -
                   - 0s 28ms/step
1/1 -
           0s 29ms/step
```

```
1/1 -
                Os 29ms/step
                    - 0s 26ms/step
                    - 0s 30ms/step
1/1 ---
1/1 -
                     - 0s 28ms/step
                     - 0s 32ms/step - loss: 0.0018
1/1 -
                Os 28ms/step - loss: 0.0017
1/1 ----
1/1 -
                    - 0s 37ms/step
                    - 0s 28ms/step
                     - 0s 33ms/step
1/1 -
                    - 0s 33ms/step
          0s 32ms/step
1/1 -
1/1 -----
                  --- 0s 30ms/step
                   — 0s 34ms/step
1/1 -
                     - 0s 31ms/step
1/1 -
1/1 -
                    — 0s 36ms/step
                     0s 27ms/step
1/1 -
1/1 -
                    - 0s 29ms/step
                  —— 0s 27ms/step
1/1 ----
                    - 0s 31ms/step
1/1 -
1/1 -
                    - 0s 27ms/step
                   —— 0s 31ms/step
1/1 -
                     - 0s 32ms/step
1/1 ———— 0s 30ms/step
                     - 0s 27ms/step
1/1 -
                    — 0s 39ms/step
1/1 -
1/1 0s 36ms/step
                    - 0s 34ms/step - loss: 0.0046
1/1 — 0s 354115/5tep - 1055. 0.00460
1/1 — 0s 35ms/step - 1055. 0.0045
Epoch: 078/149 | Loss: 0.0045 | Episodes: 375 | Win count: 4 | Win rate: 0.051 | tim
e: 9.06 minutes
                    - 0s 30ms/step
1/1 -
1/1 -----
                   --- 0s 29ms/step
                     - 0s 33ms/step
                     - 0s 39ms/step
1/1 -
1/1 -----
                Os 35ms/step
1/1 -
                    - 0s 28ms/step
1/1 -
                   — 0s 34ms/step
1/1 0s 26ms/step
                    - 0s 36ms/step
1/1 -
                     - 0s 31ms/step
1/1 -
                    - 0s 34ms/step
1/1 ----
1/1 0s 32ms/step
                     - 0s 29ms/step
1/1 -
                    — 0s 35ms/step
                     - 0s 34ms/step
                     - 0s 35ms/step
1/1 -
1/1 ---
                  Os 36ms/step
1/1 -
                    - 0s 47ms/step
                     - 0s 38ms/step
1/1 -
                Os 42ms/step
                     – 0s 37ms/step - loss: 0.0296
1/1 -
    0s 37ms/step - loss: 0.0291
1/1 -
                 Os 28ms/step
1/1 -
1/1 -
           Os 28ms/step
                    - 0s 30ms/step
1/1 -
           0s 33ms/step
```

1/1	0-	27/-+			
1/1					
1/1	0s	31ms/step			
1/1					
1/1	0s	36ms/step			
1/1					
1/1					
1/1	0s	31ms/step			
1/1	0s	29ms/step			
1/1	0s	32ms/step			
1/1					
1/1	95	37ms/sten			
1/1					
1/1	۵s	37ms/step			
1/1					
1/1					
					0 0004
1/1					
1/1			-	loss:	0.0035
1/1					
1/1					
1/1	0s	32ms/step			
1/1					
1/1					
1/1					
1/1	0s	32ms/step			
1/1					
1/1	0s	38ms/step			
1/1	0s	36ms/step			
1/1	0s	37ms/step			
1/1	0s	29ms/step			
1/1	0s	31ms/step			
1/1					
1/1					
1/1					
1/1	0s	32ms/step			
1/1	0s	31ms/step			
1/1					
1/1					
1/1			_	loss:	0.0368
1/1	0s	31ms/step	_	loss:	0.0351
1/1					
1/1					
1/1					
1/1	05	38ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	OS OS	32mc/c+an			
1/1	05	26ms/step			
1/1					
1/1					
1/1	05	20mc/c+05			
1/1	05	ZJIIIS/Step			

1/1	00	20mc/c+on			
1/1					
1/1					
1/1	05	32ms/step			
1/1					
1/1	<b>0</b> S	44ms/step	-	loss:	0.030/
1/1			-	loss:	0.0301
1/1					
1/1					
1/1					
1/1					
1/1	0s	36ms/step			
1/1					
1/1	0s	32ms/step			
1/1					
1/1	0s	29ms/step			
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1					
1/1	0s	35ms/step			
1/1					
1/1					
1/1	0s	28ms/step			
1/1					
1/1					
1/1	0s	33ms/step	-	loss:	0.0037
1/1	0s	33ms/step	-	loss:	0.0038
1/1	0s	28ms/step			
1/1	0s	34ms/step			
1/1					
1/1	0s	36ms/step			
1/1					
1/1	0s	33ms/step			
1/1	0s	48ms/step			
1/1	0s	58ms/step			
1/1	0s	37ms/step			
1/1	0s	30ms/step			
1/1	0s	28ms/step			
1/1	0s	29ms/step			
1/1	0s	31ms/step			
1/1					
1/1	0s	30ms/step			
1/1	0s	30ms/step			
1/1					
1/1	0s	25ms/step			
1/1					
1/1					
1/1			_	loss:	0.0028
1/1					
1/1					
1/1	0s	33ms/step			
1/1					
1/1	0s	33ms/step			
1/1	0s	35ms/step			
1/1	0s	37ms/step			
-		-,			

```
1/1 -
                 Os 31ms/step
                     - 0s 27ms/step
                     - 0s 27ms/step
1/1 -
1/1 -
                     - 0s 27ms/step
                     - 0s 28ms/step
1/1 -
                     - 0s 33ms/step
1/1 ----
1/1 -
                     - 0s 30ms/step
                     - 0s 34ms/step
                     - 0s 44ms/step
1/1 -
                     - 0s 34ms/step
                     - 0s 29ms/step
1/1 -
1/1 -----
                     - 0s 35ms/step
                     - 0s 32ms/step
1/1 -
                     - 0s 33ms/step
1/1 -
                     - 0s 40ms/step - loss: 0.0029
1/1 -
                     - 0s 39ms/step - loss: 0.0030
1/1 -
1/1 -
                     - 0s 35ms/step
1/1 ----
                   — 0s 34ms/step
                     - 0s 33ms/step
1/1 -
1/1 -
                     - 0s 32ms/step
                     - 0s 32ms/step
1/1 -
                     - 0s 28ms/step
1/1 -----
                   —— 0s 27ms/step
                     - 0s 30ms/step
1/1 -
                     - 0s 34ms/step
1/1 -
                Os 34ms/step
                     - 0s 27ms/step
                     - 0s 27ms/step
1/1 -
1/1 -----
                     - 0s 30ms/step
                   Os 24ms/step
1/1 -----
                     - 0s 29ms/step
1/1 -
                     — 0s 28ms/step
                     - 0s 39ms/step
                     - 0s 33ms/step
1/1 -
1/1 -----
                  Os 44ms/step
1/1 -----
                  Os 33ms/step
                 Os 33ms/step - loss: 0.0024
1/1 ———— 0s 32ms/step - loss: 0.0024
Epoch: 079/149 | Loss: 0.0024 | Episodes: 383 | Win count: 4 | Win rate: 0.050 | tim
e: 9.27 minutes
1/1 -----
                    — 0s 35ms/step
1/1 0s 33ms/step
                     - 0s 28ms/step
1/1 -
                    — 0s 32ms/step
                     - 0s 26ms/step
                     - 0s 27ms/step
1/1 -
1/1 -
                   --- 0s 31ms/step
1/1 -
                     - 0s 31ms/step
                     - 0s 28ms/step
1/1 -
                   --- 0s 28ms/step
1/1 -
                     - 0s 32ms/step
     Os 47ms/step
1/1 -
                     - 0s 49ms/step
1/1 -
                Os 33ms/step
1/1 -
                     - 0s 29ms/step
1/1 -
            0s 29ms/step
```

1/1	۵c	30mc/stan			
1/1					
1/1					
1/1	05	2/ms/step			
				,	0 0007
1/1	05	29ms/step	-	Toss:	0.0027
1/1			-	loss:	0.0027
1/1					
1/1					
1/1					
1/1					
1/1	0s	34ms/step			
1/1					
1/1	0s	30ms/step			
1/1	0s	34ms/step			
1/1					
1/1	0s	26ms/step			
1/1					
1/1					
1/1					
1/1	0s	26ms/step			
1/1					
1/1	95	30ms/sten			
1/1					
1/1					
1/1					
1/1					
1/1			_	1000	a a31a
1/1		35ms/step			
1/1			_	1055.	0.0300
1/1	05	20ms/step			
1/1					
1/1					
1/1 ———————————————————————————————————					
1/1					
1/1					
1/1	05	30ms/step			
1/1					
1/1	0s	34ms/step			
1/1					
1/1					
1/1					
1/1	0s	26ms/step			
1/1					
1/1	0s	25ms/step			
1/1					
1/1					
1/1					
1/1					
1/1			-	loss:	0.0024
1/1	0s	31ms/step			
1/1					
1/1	0s	30ms/step			
1/1	0s	40ms/step			
1/1	0s	29ms/step			
1/1	0s	38ms/step			
		•			

160 of 316

4.44	_	<b>-</b> 0 / /			
1/1					
1/1					
1/1	0s	32ms/step			
1/1	0s	28ms/step			
1/1	0s	34ms/step			
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	31ms/step			
1/1					
1/1	0s	28ms/step			
1/1					
1/1	0s	52ms/step	-	loss:	0.0047
1/1			-	loss:	0.0047
1/1	0s	29ms/step			
1/1	0s	30ms/step			
1/1	0s	36ms/step			
1/1	0s	32ms/step			
1/1					
1/1	95	27ms/sten			
1/1					
1/1					
1/1					
1/1					
1/1	05	42ms/step			
1/1					
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	32ms/step	-	loss:	0.0061
1/1			-	loss:	0.0058
1/1					
1/1					
1/1	0s	38ms/step			
1/1					
1/1	0s	30ms/step			
1/1	0s	29ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	31ms/step			
1/1	05	28mc/c+an			
1/1					
1/1					
1/1	05	30mc/c+on			
±/ ±	92	שוויסר / צווויסר / צווויסר			

```
1/1 -
             Os 26ms/step
               Os 25ms/step
                Os 39ms/step - loss: 0.0042
1/1 ---
1/1 -
                  - 0s 32ms/step - loss: 0.0038
                  - 0s 36ms/step
1/1 -
         Os 30ms/step
1/1 -----
                  - 0s 36ms/step
1/1 -
                  - 0s 34ms/step
                  - 0s 29ms/step
1/1 -
                  - 0s 28ms/step
    0s 30ms/step
1/1 -
1/1 Os 24ms/step
                —— 0s 27ms/step
1/1 -
                  - 0s 31ms/step
1/1 -
                  - 0s 25ms/step
1/1 -
                  0s 29ms/step
1/1 -
1/1 -
                  - 0s 28ms/step
           0s 36ms/step
1/1 ----
                  - 0s 25ms/step
1/1 -
1/1 -
                  -- 0s 28ms/step
                Os 32ms/step
1/1 -
                  - 0s 38ms/step
1/1 ———— 0s 29ms/step
        0s 43ms/step
1/1 -
               Os 46ms/step - loss: 0.0052
1/1 -
1/1 ---- 0s 35ms/step - loss: 0.0046
Epoch: 080/149 | Loss: 0.0046 | Episodes: 390 | Win count: 4 | Win rate: 0.049 | tim
e: 9.45 minutes
                 — 0s 30ms/step
1/1 -----
1/1 0s 29ms/step
                  - 0s 31ms/step
1/1 -
                —— 0s 28ms/step
                  - 0s 39ms/step
                  - 0s 34ms/step
1/1 -
1/1 0s 29ms/step
1/1 -
                 — 0s 26ms/step
1/1 -
                —— 0s 27ms/step
1/1 ...... 0s 35ms/step
                  - 0s 30ms/step
1/1 -
                  - 0s 33ms/step
1/1 -
              Os 28ms/step
1/1 -----
1/1 Os 27ms/step
                  - 0s 28ms/step
1/1 -
               Os 37ms/step
                  - 0s 38ms/step
                  - 0s 29ms/step
1/1 -
       0s 28ms/step
1/1 ---
1/1 -
                  - 0s 33ms/step
                  — 0s 30ms/step - loss: 0.0035
1/1 -
1/1 ——— 0s 30ms/step - loss: 0.0033
1/1 -
                  - 0s 26ms/step
1/1 ———— 0s 30ms/step
              Os 30ms/step
1/1 -
1/1 -
      Os 28ms/step
      Os 33ms/step
1/1 -
1/1 ---- 0s 30ms/step
```

1/1	95	27ms/sten			
1/1					
1/1					
1/1	05	231115/Step			
1/1	05	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	30ms/step			
1/1					
1/1	0s	38ms/step			
1/1					
1/1	0s	34ms/step	-	loss:	0.0029
1/1			-	loss:	0.0028
1/1					
1/1					
1/1	0s	32ms/step			
1/1	0s	27ms/step			
1/1					
1/1	0s	32ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	28ms/step			
1/1	05	29ms/step			
1/1	95	27ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1			_	1000	0 0333
1/1	05	18ms/step	_	1055.	0.0322
1/1			_	1033.	0.0321
1/1					
1/1					
1/1					
1/1					
1/1	05	28ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	Øs	28ms/step			
1/1	0s	36ms/step			
1/1	0s	46ms/step			
1/1					
1/1	0s	36ms/step			
1/1	0s	34ms/step			

```
1/1 -
             Os 33ms/step
              Os 32ms/step
               Os 31ms/step - loss: 0.0032
1/1 ---
1/1 -
                  - 0s 34ms/step - loss: 0.0032
                  - 0s 31ms/step
1/1 -
1/1 -----
        Os 43ms/step
1/1 -
                 - 0s 37ms/step
                 — 0s 37ms/step
                —— 0s 37ms/step
1/1 -
                 — 0s 32ms/step
    0s 36ms/step
1/1 -
1/1 0s 32ms/step
                —— 0s 32ms/step
1/1 -
                 - 0s 27ms/step
1/1 -
                 -- 0s 31ms/step
1/1 -
                  - 0s 39ms/step
1/1 -
1/1 -
                 — 0s 37ms/step
1/1 ----
          Os 40ms/step
                 - 0s 32ms/step
1/1 -
1/1 -
                 - 0s 40ms/step
    0s 27ms/step
1/1 -
                 - 0s 32ms/step
1/1 ———— 0s 29ms/step
         0s 34ms/step
1/1 -
              Os 28ms/step - loss: 0.0032
1/1 -
1/1 ---- 0s 36ms/step - loss: 0.0032
Epoch: 081/149 | Loss: 0.0032 | Episodes: 395 | Win count: 4 | Win rate: 0.049 | tim
e: 9.58 minutes
1/1 -
                — 0s 31ms/step
1/1 ———— 0s 30ms/step
                 - 0s 28ms/step
1/1 -
               —— 0s 27ms/step
                  - 0s 28ms/step
                  - 0s 27ms/step
1/1 -
1/1 ———— 0s 28ms/step
1/1 -
                — 0s 39ms/step
1/1 -
               --- 0s 33ms/step
1/1 _____ 0s 26ms/step
                 - 0s 30ms/step
1/1 -
                  - 0s 29ms/step
1/1 -
     0s 33ms/step
1/1 -----
1/1 Os 27ms/step
                  - 0s 31ms/step
1/1 -
              OS 26ms/step
                  - 0s 25ms/step
                  - 0s 27ms/step
1/1 -
      0s 25ms/step
1/1 ---
1/1 -
                — 0s 34ms/step
                 — 0s 36ms/step - loss: 0.0027
1/1 -
1/1 ——— 0s 33ms/step - loss: 0.0027
                  - 0s 30ms/step
1/1 -
1/1 — 0s 31ms/step
        Os 33ms/step
1/1 -
      Os 43ms/step
1/1 -
      0s 35ms/step
1/1 -
```

1/1	0s	33ms/step			
1/1	 0s	40ms/step			
1/1	0s	31ms/step			
1/1	 0s	40ms/step			
1/1	0s	34ms/step			
1/1	0s	38ms/step			
1/1	0s	60ms/step			
1/1	0s	39ms/step			
			_	loss:	0.0027
				1033.	0.0024
1/1	05	3/ms/step			
1/1	05	27ms/step			
1/1	05	28ms/step			
1/1	 05	28ms/step			
				_	
			-	loss:	0.0031
1/1	0s	34ms/step			
1/1	0s	27ms/step			
1/1	0s	39ms/step			
1/1	0s	31ms/step			

1/1	0s	30ms/step			
1/1					
1/1	0s	32ms/step	-	loss:	0.0036
1/1	0s	32ms/step	-	loss:	0.0036
1/1	0s	28ms/step			
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	35ms/step			
1/1					
1/1	0s	35ms/step			
1/1					
1/1	0s	35ms/step			
1/1					
1/1					
1/1					
1/1	0s	34ms/step			
1/1					
1/1	0S	3/ms/step			
1/1					
1/1					
1/1				10001	0 0020
1/1					
1/1			-	1055.	0.0027
1/1	05	12ms/step			
1/1					
1/1	03	34ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	34ms/step			
1/1	0s	31ms/step			
1/1	0s	54ms/step			
1/1	0s	33ms/step			
1/1					
1/1					
1/1					
1/1	0s	36ms/step			
1/1	0s	26ms/step			
1/1					
1/1				_	
1/1					
1/1			-	loss:	0.0032
1/1					
1/1					
1/1 ———————————————————————————————————	ØS	42ms/step			
1/1	ØS O=	32ms/step			
1/1					
1/1					
1/1	05	34mc/c+an			
±/, ±	<del>0</del> 3	J-ms/step			

```
1/1 -
                     —— 0s 41ms/step
                       - 0s 33ms/step
                       - 0s 34ms/step
1/1 -
1/1 -
                        - 0s 33ms/step
                       - 0s 31ms/step
1/1 -
                       - 0s 28ms/step
1/1 -
1/1 -
                       - 0s 34ms/step
                       - 0s 31ms/step
                       - 0s 28ms/step
1/1 -
                       - 0s 42ms/step
                       - 0s 30ms/step
1/1 -
1/1 -----
                       - 0s 29ms/step
                       – 0s 32ms/step - loss: 0.0034
1/1 -
                       - 0s 28ms/step - loss: 0.0037
1/1 -
                       - 0s 32ms/step
1/1 -
                       - 0s 31ms/step
1/1 -
1/1 -
                       - 0s 27ms/step
                       - 0s 29ms/step
1/1 ---
                       - 0s 33ms/step
1/1 -
1/1 -
                       - 0s 36ms/step
                       - 0s 29ms/step
1/1 -
                       - 0s 29ms/step
1/1 ----
                       - 0s 30ms/step
                       - 0s 38ms/step
1/1 -
                       - 0s 31ms/step
1/1 -
                    Os 31ms/step
                       - 0s 29ms/step
                       - 0s 30ms/step
1/1 -
                       - 0s 32ms/step
1/1 -
                     — 0s 34ms/step
1/1 ----
                       - 0s 32ms/step
1/1 -
                       - 0s 30ms/step
                       - 0s 32ms/step
                       - 0s 32ms/step
1/1 -
                     —— 0s 34ms/step - loss: 0.0030
1/1 -
               Os 41ms/step - loss: 0.0030
Epoch: 082/149 | Loss: 0.0030 | Episodes: 403 | Win count: 4 | Win rate: 0.048 | tim
e: 9.78 minutes
                       - 0s 32ms/step
1/1 -
                       - 0s 27ms/step
1/1 -
1/1 -----
                       - 0s 30ms/step
1/1 -----
                     —— 0s 33ms/step
                       - 0s 31ms/step
1/1 -
                       - 0s 27ms/step
                       - 0s 29ms/step
                       - 0s 28ms/step
1/1 -
1/1 -
                       - 0s 28ms/step
1/1 -
                       - 0s 30ms/step
                       - 0s 31ms/step
1/1 -
                       - 0s 32ms/step
1/1 -
                       - 0s 30ms/step
1/1 -
                       - 0s 37ms/step
                       - 0s 29ms/step
1/1 -
1/1 -
                     Os 27ms/step
                       - 0s 29ms/step
1/1 -
                   0s 48ms/step
```

1/1	0s	38ms/step			
1/1					
1/1					
1/1			-	loss:	0.0027
1/1					
1/1					
1/1					
1/1					
1/1	0s	29ms/step			
1/1	0s	40ms/step			
1/1					
1/1					
1/1					
1/1	0s	33ms/step			
1/1					
1/1	0s	25ms/step			
1/1	0s	27ms/step			
1/1	0s	37ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1			_	loss:	0.0355
1/1					
1/1					010000
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	95	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	40ms/step			
1/1					
1/1					
1/1					
1/1					
1/1			_	loss:	0.0042
1/1					
1/1					
1/1	0s	33ms/sten			
1/1	0s	37ms/sten			
1/1					
1/1					
1/1					
1/1					
1/1					
-		-,P			

```
1/1 -
                     Os 26ms/step
                       - 0s 25ms/step
                       - 0s 30ms/step
1/1 -
1/1 -
                       - 0s 38ms/step
                       - 0s 27ms/step
1/1 -
                       - 0s 29ms/step
1/1 -
1/1 -
                       - 0s 27ms/step
                       - 0s 27ms/step
                       - 0s 27ms/step
1/1 -
                       - 0s 30ms/step
                       - 0s 33ms/step
1/1 -
1/1 -----
                       - 0s 27ms/step
                       - 0s 32ms/step - loss: 0.0026
1/1 -
                       - 0s 41ms/step - loss: 0.0025
1/1 -
                       - 0s 31ms/step
1/1 -
                       - 0s 29ms/step
1/1 -
1/1 -
                       - 0s 29ms/step
                       - 0s 31ms/step
1/1 ---
                       - 0s 28ms/step
1/1 -
1/1 -
                       - 0s 28ms/step
                       - 0s 34ms/step
                       - 0s 31ms/step
1/1 -
1/1 ----
                       - 0s 29ms/step
                       - 0s 38ms/step
1/1 -
                       - 0s 30ms/step
1/1 -
                    Os 27ms/step
                       - 0s 28ms/step
                       - 0s 33ms/step
1/1 -
                       - 0s 30ms/step
1/1 -
                     — 0s 35ms/step
1/1 ----
                       - 0s 39ms/step
1/1 -
                       — 0s 40ms/step
                       - 0s 43ms/step
                       - 0s 35ms/step
1/1 -
                     --- 0s 38ms/step - loss: 0.0014
1/1 -
               0s 39ms/step - loss: 0.0012
Epoch: 083/149 | Loss: 0.0012 | Episodes: 408 | Win count: 4 | Win rate: 0.048 | tim
e: 9.91 minutes
                       - 0s 34ms/step
1/1 -
                       - 0s 31ms/step
1/1 -
1/1 -----
                       - 0s 25ms/step
1/1 -----
                     Os 30ms/step
                       - 0s 34ms/step
1/1 -
                       - 0s 33ms/step
                       - 0s 34ms/step
                       - 0s 31ms/step
1/1 -
1/1 -
                     — 0s 27ms/step
1/1 -
                       - 0s 28ms/step
                       - 0s 35ms/step
1/1 -
                       - 0s 38ms/step
1/1 -
                       - 0s 29ms/step
1/1 -
                       - 0s 27ms/step
                       - 0s 29ms/step
1/1 -
1/1 -
                     —— 0s 34ms/step
                       - 0s 26ms/step
1/1 -
                  Os 29ms/step
```

			-	loss:	0.0020
1/1	0s	41ms/step			
1/1	0s	44ms/step			
1/1	0s	32ms/step			
				1	0 0212
1/1	05	36ms/step	-	1055:	0.0312
			-	1088:	0.0296
1/1	05	31ms/step			
1/1	05	35ms/step			
1/1	05	37ms/step			
1/1	0s	30ms/step			
1/1	 0s	31ms/step			
1/1	0s	35ms/step	-	loss:	0.0029
1/1	0s	45ms/step	-	loss:	0.0035
1/1 -	0s	28ms/step			
1/1 -	 0s	33ms/step			

1/1					
1/1					
1/1					
1/1					
1/1	0s	33ms/step			
1/1					
1/1	0s	31ms/step			
1/1	0s	33ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1			-	loss:	0.0031
1/1	0s	33ms/step			
1/1	0s	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	27ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1	0s	34ms/step			
1/1					
1/1	0s	32ms/step			
1/1					
1/1	0s	29ms/step			
1/1	0s	27ms/step			
1/1	0s	29ms/step			
1/1					
1/1					
1/1			-	loss:	0.0038
1/1	0s	35ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	29ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	36ms/step			
1/1					
1/1	0s	34ms/step			

```
1/1 -
                Os 44ms/step - loss: 0.0031
                    - 0s 30ms/step - loss: 0.0031
                    - 0s 30ms/step
1/1 -
1/1 -
                     - 0s 39ms/step
                     - 0s 30ms/step
1/1 -
                    — 0s 39ms/step
1/1 -----
1/1 -
                    - 0s 29ms/step
                    - 0s 27ms/step
                    - 0s 33ms/step
1/1 -
                    - 0s 30ms/step
                  —— 0s 33ms/step
1/1 -
                    - 0s 31ms/step
1/1 -----
                    - 0s 35ms/step
1/1 -
                    - 0s 35ms/step
1/1 -
                    - 0s 42ms/step
1/1 -
                     - 0s 37ms/step
1/1 -
1/1 -
                    - 0s 38ms/step
                   Os 32ms/step
1/1 ---
                    - 0s 29ms/step
1/1 -
1/1 -
                    - 0s 33ms/step
                   — 0s 32ms/step
1/1 -
                    - 0s 31ms/step
1/1 — 0s 35ms/step - loss: 0.0032
                    - 0s 33ms/step - loss: 0.0031
1/1 -
                    — 0s 31ms/step
1/1 -
           0s 25ms/step
                    - 0s 34ms/step
                     - 0s 33ms/step
1/1 -
1/1 -----
                    - 0s 29ms/step
1/1 Os 30ms/step
                    - 0s 29ms/step
1/1 -
                    — 0s 37ms/step
                     - 0s 34ms/step
                     - 0s 32ms/step
1/1 -
1/1 -----
                  —— 0s 35ms/step
1/1 -
                    - 0s 40ms/step
1/1 -
                    - 0s 30ms/step
1/1 ---- 0s 31ms/step
                    - 0s 28ms/step
1/1 -
                     - 0s 30ms/step
1/1 -
                    - 0s 27ms/step
1/1 ----
1/1 0s 29ms/step
                    - 0s 36ms/step
1/1 -
                 Os 32ms/step
                    - 0s 39ms/step - loss: 0.0055
1/1 — 0s 65ms/step - 10ss: 0.0051
Epoch: 084/149 | Loss: 0.0051 | Episodes: 416 | Win count: 4 | Win rate: 0.047 | tim
e: 10.12 minutes
1/1 -
                    - 0s 30ms/step
                Os 32ms/step
1/1 -
                    - 0s 30ms/step
1/1 ———— 0s 37ms/step
                   — 0s 28ms/step
1/1 -
                Os 34ms/step
1/1 -
                    - 0s 27ms/step
1/1 -
           Os 32ms/step
```

1/1					
1/1					
1/1	0s	27ms/step			
1/1					
1/1	0s	28ms/step			
1/1	0s	29ms/step			
1/1	0s	34ms/step			
1/1	0s	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1			-	loss:	0.0030
1/1	0s	39ms/step			
1/1	0s	37ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1					
1/1	0s	32ms/step			
1/1	0s	45ms/step			
1/1					
1/1	0s	43ms/step			
1/1	0s	32ms/step			
1/1					
1/1	0s	30ms/step			
1/1	0s	30ms/step			
1/1	0s	28ms/step			
1/1	0s	31ms/step			
1/1	0s	32ms/step			
1/1					
1/1					
1/1			-	loss:	0.0018
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	43ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	33ms/step			
1/1					
1/1	0s	28ms/step			

```
1/1 -
               Os 31ms/step - loss: 0.0027
                 OS 41ms/step - loss: 0.0026
                    - 0s 45ms/step
1/1 -
1/1 -
                    - 0s 38ms/step
                    - 0s 37ms/step
1/1 -
                   — 0s 32ms/step
1/1 ----
1/1 -
                    - 0s 27ms/step
1/1 -
                    - 0s 43ms/step
                    - 0s 28ms/step
1/1 -
                    - 0s 37ms/step
                  —— 0s 31ms/step
1/1 -
                    - 0s 30ms/step
1/1 -----
                    - 0s 27ms/step
1/1 -
                    - 0s 35ms/step
1/1 -
1/1 -
                    - 0s 32ms/step
1/1 -
                    - 0s 31ms/step
1/1 -
                    - 0s 29ms/step
                  — 0s 30ms/step
1/1 ---
                    - 0s 32ms/step
1/1 -
1/1 -
                    - 0s 39ms/step
                  —— 0s 32ms/step
                    - 0s 30ms/step
1/1 -
1/1 ——— 0s 35ms/step - loss: 0.0036
1/1 — 0s 33ms/step - loss: 0.0033
Epoch: 085/149 | Loss: 0.0033 | Episodes: 420 | Win count: 4 | Win rate: 0.047 | tim
e: 10.23 minutes
1/1 — 0s 32ms/step
1/1 -----
                    - 0s 27ms/step
1/1 Os 30ms/step
                    - 0s 30ms/step
1/1 -
                   — 0s 35ms/step
                    - 0s 36ms/step
                    - 0s 35ms/step
1/1 -
               Os 39ms/step
1/1 -----
1/1 -
                    - 0s 39ms/step
1/1 -
                  — 0s 44ms/step
1/1 ---- 0s 28ms/step
                    - 0s 37ms/step
1/1 -
                    - 0s 33ms/step
1/1 -
                    - 0s 30ms/step
1/1 -
1/1 0s 29ms/step
                    - 0s 31ms/step
1/1 -
                    — 0s 30ms/step
                    - 0s 30ms/step
                    - 0s 33ms/step
1/1 -
1/1 -
                 ---- 0s 37ms/step - loss: 0.0038
1/1 -
                    - 0s 37ms/step - loss: 0.0034
                    - 0s 29ms/step
1/1 -
               Os 32ms/step
1/1 -
                    - 0s 29ms/step
    Os 33ms/step
1/1 -
                    - 0s 37ms/step
1/1 -
            0s 31ms/step
1/1 -
                    - 0s 33ms/step
1/1 -
           0s 35ms/step
```

1/1						
1/1	0s	30ms/step				
1/1						
1/1	03	321113/3Cep				
1/1	0s	31ms/step				
1/1	0s	25ms/step				
1/1	95	32ms/sten				
1/1						
1/1	0s	33ms/step				
1/1	0s	30ms/step				
1/1						
1/1	03	31113/3CEP				
1/1	0s	30ms/step				
1/1	0s	38ms/step				
1/1	0s	43ms/step	_	loss:	0.0028	
1/1	۵c	3/ms/stan	_	1000	0 0028	
1/1	03	34113/3CEP		1033.	0.0020	
1/1	US	4/ms/step				
1/1						
1/1	0s	35ms/step				
1/1						
1/1	0s	30ms/step				
1/1	0s	45ms/step				
1/1	0s	30ms/step				
1/1	۵c	28mc/stan				
1/1						
1/1	0s	31ms/step				
1/1	0s	30ms/step				
1/1						
1/1	0s	41ms/step				
1/1						
1/1	0s	30ms/step				
1/1	۵c	32mc/stan				
1/1	0S	51ms/step				
1/1						
1/1	0s	36ms/step				
1/1						
1/1				1	0.0001	
1/1			-	loss:	0.0021	
1/1	0s	28ms/step				
1/1	0s	33ms/step				
1/1						
1/1	03	371113/3Cep				
1/1						
1/1						
1/1	0s	30ms/step				
1/1						
1/1	03	34ma/atan				
1/1	0s	37ms/step				
1/1	0s	38ms/step				
1/1						
1/1						
1/1						
1/1						
1/1						
1/1	00	22ms/stcp				
1/1	62	52ms/step				
1/1	0s	31ms/step				
1/1	0s	31ms/step				
1/1						
1/1	Qc.	32ms/s+an				
	US	Jems/steb				

```
1/1 -
                Os 33ms/step - loss: 0.0035
                 Os 30ms/step - loss: 0.0035
                    — 0s 28ms/step
1/1 -
1/1 -
                     - 0s 32ms/step
                     - 0s 31ms/step
1/1 -
                    — 0s 31ms/step
1/1 ----
1/1 -
                     - 0s 31ms/step
                     - 0s 45ms/step
                     - 0s 26ms/step
1/1 -
                     - 0s 29ms/step
                     - 0s 33ms/step
1/1 -
                     - 0s 32ms/step
1/1 -----
                    - 0s 41ms/step
1/1 -
                     - 0s 39ms/step
1/1 -
                    - 0s 37ms/step
1/1 -
                     0s 49ms/step
1/1 -
1/1 -
                     - 0s 49ms/step
                   —— 0s 36ms/step
1/1 ---
                     - 0s 33ms/step
1/1 -
1/1 -
                    - 0s 32ms/step
                   —— 0s 35ms/step
                     - 0s 28ms/step
1/1 -
1/1 -----
                  Os 43ms/step - loss: 0.0025
                     - 0s 36ms/step - loss: 0.0026
1/1 -
                    — 0s 32ms/step
1/1 -
            0s 30ms/step
                    - 0s 36ms/step
                     - 0s 33ms/step
1/1 -
1/1 -----
                     - 0s 37ms/step
1/1 -----
           Os 31ms/step
                     - 0s 29ms/step
1/1 -
                    — 0s 27ms/step
                     - 0s 29ms/step
                     - 0s 33ms/step
1/1 -
                   Os 29ms/step
1/1 -
1/1 -
                     - 0s 32ms/step
1/1 -
                    - 0s 31ms/step
           0s 29ms/step
                     - 0s 29ms/step
1/1 -
                     - 0s 38ms/step
1/1 -
                     - 0s 33ms/step
1/1 ----
1/1 Os 30ms/step
                     - 0s 29ms/step
1/1 -
                  --- 0s 30ms/step
                     - 0s 34ms/step - loss: 0.0023
1/1 — 0s 37ms/step - 1033. 0.0023
Epoch: 086/149 | Loss: 0.0024 | Episodes: 426 | Win count: 4 | Win rate: 0.046 | tim
e: 10.39 minutes
1/1 -
                     - 0s 29ms/step
                Os 27ms/step
1/1 -
                     - 0s 32ms/step
1/1 — 0s 31ms/step
                   — 0s 35ms/step
1/1 -
                Os 30ms/step
1/1 -
                     - 0s 33ms/step
1/1 -
            0s 32ms/step
```

4.14	•	20 / 1			
1/1					
1/1					
1/1	0s	41ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	33ms/step			
1/1	0s	35ms/step			
1/1	0s	28ms/step			
1/1					
1/1					
1/1			_	1055.	0 0042
1/1	95	32ms/step	_	1055.	0.00.12
1/1				1055.	0.00.2
1/1					
1/1					
1/1					
1/1					
1/1	05	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	32ms/step			
1/1					
1/1	0s	35ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1			-	loss:	0.0038
1/1	0s	37ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	38ms/step			
1/1					
1/1					
1/1	0s	38ms/step			
1/1	0s	32ms/step			
1/1	0s	32ms/step			
1/1	0s	28ms/step			
1/1	0s	25ms/step			
1/1	0s	40ms/step			
1/1	0s	32ms/step			
1/1	0s	31ms/step			
1/1					
1/1	0s	30ms/step			
1/1	0s	26ms/step			

```
1/1 -
                Os 32ms/step - loss: 0.0024
                 —— 0s 30ms/step - loss: 0.0024
                    - 0s 30ms/step
1/1 -
1/1 -
                     - 0s 44ms/step
                     - 0s 36ms/step
1/1 -
                    - 0s 28ms/step
1/1 ----
1/1 -
                    - 0s 33ms/step
                     - 0s 32ms/step
                     - 0s 31ms/step
1/1 -
                    - 0s 39ms/step
                     - 0s 33ms/step
1/1 -
1/1 -----
                     - 0s 28ms/step
                    - 0s 29ms/step
1/1 -
                    - 0s 33ms/step
1/1 -
1/1 -
                    - 0s 32ms/step
1/1 -
                     0s 35ms/step
1/1 -
                    - 0s 29ms/step
1/1 ---
                   — 0s 28ms/step
                    - 0s 39ms/step
1/1 -
1/1 -
                    - 0s 33ms/step
                   Os 56ms/step
                    - 0s 47ms/step
1/1 -
1/1 — 0s 32ms/step - loss: 0.0033
                    - 0s 35ms/step - loss: 0.0031
1/1 -
                    — 0s 35ms/step
1/1 -
            Os 31ms/step
                    - 0s 35ms/step
                     - 0s 43ms/step
1/1 -
1/1 -----
                    - 0s 30ms/step
1/1 -----
          Os 42ms/step
                    - 0s 28ms/step
1/1 -
                    — 0s 30ms/step
                     - 0s 27ms/step
                     - 0s 34ms/step
1/1 -
                  Os 39ms/step
1/1 -
1/1 -
                    - 0s 42ms/step
1/1 -
                    - 0s 31ms/step
1/1 ---- 0s 38ms/step
                    - 0s 34ms/step
1/1 -
                     - 0s 34ms/step
1/1 -
                    - 0s 43ms/step
1/1 ----
1/1 0s 32ms/step
                    - 0s 29ms/step
1/1 -
                  OS 30ms/step
                     - 0s 41ms/step - loss: 0.0029
1/1 — 0s 35ms/step - 10ss: 0.0029
Epoch: 087/149 | Loss: 0.0029 | Episodes: 431 | Win count: 4 | Win rate: 0.045 | tim
e: 10.52 minutes
1/1 -
                    - 0s 39ms/step
                Os 35ms/step
1/1 -
                    - 0s 34ms/step
1/1 ———— 0s 30ms/step
                     - 0s 30ms/step
1/1 -
                Os 35ms/step
1/1 -
                    - 0s 41ms/step
1/1 -
            0s 39ms/step
```

1/1					
1/1					
1/1					
1/1					
1/1	0s	32ms/step			
1/1					
1/1	0s	31ms/step			
1/1	0s	38ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1			-	loss:	0.0019
1/1	0s	32ms/step			
1/1	0s	32ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	32ms/step			
1/1					
1/1	0s	37ms/step			
1/1	0s	38ms/step			
1/1					
1/1	0s	29ms/step			
1/1	0s	32ms/step			
1/1					
1/1	0s	44ms/step			
1/1	0s	36ms/step			
1/1	0s	33ms/step			
1/1	0s	45ms/step			
1/1	0s	40ms/step			
1/1					
1/1					
1/1			-	loss:	0.0026
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	36ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	34ms/step			
1/1					
1/1	0s	32ms/step			

```
1/1 -----
           Os 35ms/step - loss: 0.0031
          Os 40ms/step - loss: 0.0032
Epoch: 088/149 | Loss: 0.0032 | Episodes: 434 | Win count: 4 | Win rate: 0.045 | tim
e: 10.60 minutes
1/1 -----
                   - 0s 29ms/step
          0s 50ms/step
1/1 ----
1/1 -
                  — 0s 38ms/step
1/1 ---
                  --- 0s 51ms/step
                   - 0s 38ms/step
1/1 -
                   - 0s 35ms/step
    0s 33ms/step
1/1 -
                Os 36ms/step
1/1 -----
                  —— 0s 30ms/step
1/1 -
                   - 0s 28ms/step
1/1 -
                   - 0s 34ms/step
1/1 -
                    0s 32ms/step
1/1 -
1/1 -
                   - 0s 39ms/step
                 —— 0s 43ms/step
1/1 -----
                   - 0s 37ms/step
1/1 -
1/1 -
                   - 0s 33ms/step
                 —— 0s 34ms/step
1/1 -
                   - 0s 33ms/step
1/1 ———— 0s 30ms/step
                   - 0s 36ms/step
1/1 -
                   — 0s 38ms/step - loss: 0.0033
1/1 -
          Os 36ms/step - loss: 0.0032
                   - 0s 40ms/step
                    - 0s 31ms/step
1/1 -
1/1 -----
                   - 0s 41ms/step
1/1 0s 36ms/step
                   - 0s 56ms/step
1/1 -
                  — 0s 39ms/step
                    - 0s 39ms/step
                    - 0s 29ms/step
1/1 -
1/1 0s 34ms/step
1/1 -
                   - 0s 29ms/step
1/1 -
                  — 0s 35ms/step
1/1 ---- 0s 37ms/step
                   - 0s 34ms/step
1/1 -
                    - 0s 40ms/step
1/1 -
                   - 0s 36ms/step
1/1 ----
1/1 0s 34ms/step
                   - 0s 29ms/step
1/1 -
                   — 0s 52ms/step
                    - 0s 38ms/step
                   - 0s 34ms/step
1/1 -
1/1 -
                —— 0s 34ms/step - loss: 0.0032
1/1 -
                   - 0s 36ms/step - loss: 0.0032
                   - 0s 38ms/step
1/1 -
           0s 36ms/step
1/1 -
                   - 0s 36ms/step
    0s 34ms/step
1/1 -
                   - 0s 39ms/step
1/1 -
1/1 -
           Os 32ms/step
                   - 0s 35ms/step
1/1 -
           0s 32ms/step
```

1/1					
1/1					
1/1					
1/1					
1/1	0s	32ms/step			
1/1					
1/1	0s	34ms/step			
1/1	0s	25ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1			-	loss:	0.0030
1/1	0s	40ms/step			
1/1	0s	35ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	28ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	29ms/step			
1/1	0s	40ms/step			
1/1					
1/1	0s	30ms/step			
1/1					
1/1	0s	32ms/step			
1/1	0s	42ms/step			
1/1	0s	31ms/step			
1/1					
1/1					
1/1			-	loss:	0.0035
1/1	0s	27ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	36ms/step			
1/1					
1/1	0s	31ms/step			

```
1/1 -
               Os 39ms/step - loss: 0.0032
                Os 39ms/step - loss: 0.0032
                   - 0s 41ms/step
1/1 -
                    - 0s 33ms/step
1/1 -
                    - 0s 36ms/step
1/1 -
                   — 0s 35ms/step
1/1 ----
1/1 -
                   - 0s 38ms/step
1/1 -
                    - 0s 31ms/step
                    - 0s 39ms/step
1/1 -
                   - 0s 29ms/step
               0s 38ms/step
1/1 -
                 —— 0s 35ms/step
1/1 -----
                  — 0s 29ms/step
1/1 -
                   - 0s 33ms/step
1/1 -
                   - 0s 57ms/step
1/1 -
1/1 -
                    - 0s 32ms/step
1/1 -
                   - 0s 35ms/step
                 —— 0s 30ms/step
1/1 ---
                   - 0s 35ms/step
1/1 -
1/1 -
                   - 0s 32ms/step
     0s 28ms/step
                   - 0s 33ms/step
1/1 -
1/1 — 0s 52ms/step - loss: 0.0032
1/1 — 0s 33ms/step - loss: 0.0032
Epoch: 089/149 | Loss: 0.0032 | Episodes: 440 | Win count: 4 | Win rate: 0.044 | tim
e: 10.77 minutes
1/1 — 0s 44ms/step
1/1 -----
                   - 0s 33ms/step
1/1 0s 33ms/step
                   - 0s 30ms/step
1/1 -
                  — 0s 33ms/step
                    - 0s 29ms/step
                    - 0s 31ms/step
1/1 -
          0s 35ms/step
1/1 -----
1/1 -
                  — 0s 31ms/step
1/1 -
                  --- 0s 32ms/step
1/1 ---- 0s 31ms/step
                   - 0s 35ms/step
1/1 -
                    - 0s 31ms/step
1/1 -
                   - 0s 31ms/step
1/1 -
1/1 0s 38ms/step
                    - 0s 32ms/step
1/1 -
                   — 0s 37ms/step
                    - 0s 41ms/step
                   - 0s 31ms/step
1/1 -
                Os 45ms/step - loss: 0.0036
1/1 -
1/1 -
                   - 0s 45ms/step - loss: 0.0035
                   - 0s 32ms/step
1/1 -
               Os 32ms/step
1/1 -
                    - 0s 31ms/step
    0s 30ms/step
1/1 -
                    - 0s 27ms/step
1/1 -
1/1 -
           Os 26ms/step
                   - 0s 31ms/step
1/1 -
           0s 29ms/step
```

1/1					
1/1					
1/1					
1/1					
1/1	0s	40ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1			-	loss:	0.0030
1/1	0s	32ms/step			
1/1	0s	33ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	39ms/step			
1/1					
1/1	0s	31ms/step			
1/1	0s	30ms/step			
1/1					
1/1	0s	32ms/step			
1/1	0s	53ms/step			
1/1					
1/1	0s	32ms/step			
1/1					
1/1	0s	27ms/step			
1/1	0s	31ms/step			
1/1	0s	32ms/step			
1/1					
1/1					
1/1			-	loss:	0.0032
1/1	0s	39ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	36ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	32ms/step			
1/1					
1/1	0s	35ms/step			

```
1/1 -
            OS 34ms/step - loss: 0.0031
           Os 35ms/step - loss: 0.0030
Epoch: 090/149 | Loss: 0.0030 | Episodes: 444 | Win count: 4 | Win rate: 0.044 | tim
e: 10.88 minutes
1/1 -----
                    - 0s 29ms/step
           0s 30ms/step
1/1 -----
                   - 0s 45ms/step
1/1 -
1/1 -
                  — 0s 29ms/step
                    - 0s 30ms/step
1/1 -
                    - 0s 28ms/step
          0s 29ms/step
1/1 -
                 Os 30ms/step
1/1 -----
                  — 0s 27ms/step
1/1 -
                    - 0s 37ms/step
1/1 -
                   - 0s 31ms/step
1/1 -
                    - 0s 29ms/step
1/1 -
1/1 -
                    - 0s 33ms/step
                  --- 0s 41ms/step
1/1 ---
                    - 0s 33ms/step
1/1 -
1/1 -
                   - 0s 39ms/step
                  — 0s 31ms/step
1/1 -
                    - 0s 41ms/step
1/1 ———— 0s 30ms/step
                    - 0s 44ms/step
1/1 -
                   — 0s 38ms/step - loss: 0.0026
1/1 -
           0s 41ms/step - loss: 0.0026
                   - 0s 37ms/step
                    - 0s 32ms/step
1/1 -
1/1 -----
                    - 0s 45ms/step
1/1 Os 30ms/step
                    - 0s 32ms/step
1/1 -
                   — 0s 34ms/step
                    - 0s 39ms/step
                    - 0s 32ms/step
1/1 -
                  Os 34ms/step
1/1 -
1/1 -
                    - 0s 29ms/step
1/1 -
                   - 0s 26ms/step
1/1 0s 33ms/step
                    - 0s 39ms/step
1/1 -
                    - 0s 30ms/step
1/1 -
                    - 0s 29ms/step
1/1 -
1/1 Os 33ms/step
                    - 0s 31ms/step
1/1 -
                   — 0s 30ms/step
                    - 0s 39ms/step
                    - 0s 30ms/step
1/1 -
1/1 -
                 --- 0s 32ms/step - loss: 0.0036
1/1 -
                    - 0s 34ms/step - loss: 0.0036
                    - 0s 32ms/step
1/1 -
               Os 39ms/step
1/1 -
                    - 0s 33ms/step
    Os 33ms/step
1/1 -
                    - 0s 32ms/step
1/1 -
1/1 -
               Os 26ms/step
                    - 0s 34ms/step
1/1 -
           0s 34ms/step
```

4.14	•	24 / 1			
1/1					
1/1					
1/1	0s	26ms/step			
1/1					
1/1	0s	36ms/step			
1/1					
1/1					
1/1	0s	35ms/step			
1/1	0s	33ms/step			
1/1					
1/1	0s	36ms/step			
1/1	0s	38ms/step			
1/1			_	loss:	0.0023
1/1	0s	62ms/step	_	loss:	0.0023
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	95	37ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	411115/Step			
1/1					
1/1	05	32ms/step			
1/1					
1/1					
1/1					
1/1					
1/1				1	0 0022
1/1			-	1055:	0.0022
1/1	05	34ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	05	32ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	45ms/step			
1/1	0s	32ms/step			
1/1					
1/1					
1/1	0s	39ms/step			
1/1	0s	34ms/step			

```
1/1 -
               Os 30ms/step - loss: 0.0030
                 Os 30ms/step - loss: 0.0029
                   — 0s 30ms/step
1/1 -
1/1 -
                    - 0s 32ms/step
                    - 0s 32ms/step
1/1 -
                   — 0s 41ms/step
1/1 ----
1/1 -
                    - 0s 34ms/step
                    - 0s 28ms/step
                    - 0s 32ms/step
1/1 -
                    - 0s 34ms/step
                    - 0s 38ms/step
1/1 -
1/1 -----
                    - 0s 45ms/step
                    - 0s 29ms/step
1/1 -
                    - 0s 30ms/step
1/1 -
1/1 -
                    - 0s 31ms/step
1/1 -
                    0s 26ms/step
1/1 -
                    - 0s 34ms/step
                  Os 33ms/step
1/1 ---
                    - 0s 27ms/step
1/1 -
1/1 -
                    - 0s 37ms/step
                  — 0s 29ms/step
                    - 0s 54ms/step
1/1 -
1/1 — 0s 35ms/step - loss: 0.0030
                    - 0s 45ms/step - loss: 0.0030
1/1 -
                    — 0s 44ms/step
1/1 -
           Os 62ms/step
                    - 0s 35ms/step
                    - 0s 34ms/step
1/1 -
1/1 -----
                    - 0s 39ms/step
1/1 0s 35ms/step
                    - 0s 35ms/step
1/1 -
                   — 0s 26ms/step
                    - 0s 36ms/step
                    - 0s 32ms/step
1/1 -
                Os 33ms/step
1/1 -
1/1 -
                    - 0s 29ms/step
1/1 -
                   -- 0s 38ms/step
1/1 0s 43ms/step
                    - 0s 45ms/step
1/1 -
                    - 0s 33ms/step
1/1 -
                    - 0s 32ms/step
1/1 ----
1/1 0s 32ms/step
                    - 0s 38ms/step
1/1 -
                 Os 31ms/step
                    - 0s 34ms/step - loss: 0.0033
1/1 — 0s 45ms/step - 10ss: 0.0032
Epoch: 091/149 | Loss: 0.0032 | Episodes: 451 | Win count: 4 | Win rate: 0.043 | tim
e: 11.06 minutes
1/1 -
                    - 0s 30ms/step
                Os 34ms/step
1/1 -
                    - 0s 35ms/step
1/1 ———— 0s 30ms/step
                   — 0s 30ms/step
1/1 -
               Os 29ms/step
1/1 -
                    - 0s 29ms/step
1/1 -
           0s 35ms/step
```

1/1	0-	20			
1/1					
1/1	0s	38ms/step			
1/1					
1/1	0s	36ms/step			
1/1	0s	33ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	54ms/step	-	loss:	0.0018
1/1			-	loss:	0.0017
1/1					
1/1	0s	40ms/step			
1/1	0s	32ms/step			
1/1					
1/1					
1/1	05	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	42ms/step			
1/1	0s	32ms/step			
1/1					
1/1	95	33ms/sten			
1/1					
1/1					
1/1					
1/1					
				,	
1/1					
1/1			-	loss:	0.0023
1/1	0s	35ms/step			
1/1					
1/1					
1/1	0s	51ms/step			
1/1	0s	33ms/step			
1/1	0s	36ms/step			
1/1					
1/1	95	33ms/sten			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	34ms/step			
1/1	0s	33ms/step			
1/1	0s	39ms/step			
1/1					
1/1					
1/1	95	33ms/sten			
-/ -	03	22113/3CEP			

```
1/1 -----
           Os 35ms/step - loss: 0.0022
          Os 43ms/step - loss: 0.0020
Epoch: 092/149 | Loss: 0.0020 | Episodes: 454 | Win count: 4 | Win rate: 0.043 | tim
e: 11.14 minutes
1/1 -----
                   - 0s 29ms/step
          0s 32ms/step
1/1 -----
1/1 -
                  — 0s 30ms/step
1/1 -
                  — 0s 33ms/step
                   - 0s 30ms/step
1/1 -
                   - 0s 32ms/step
     0s 32ms/step
1/1 -
                Os 34ms/step
1/1 -----
                  --- 0s 46ms/step
1/1 -
                   - 0s 34ms/step
1/1 -
                   - 0s 32ms/step
1/1 -
                    - 0s 39ms/step
1/1 -
1/1 -
                   - 0s 32ms/step
                 —— 0s 29ms/step
1/1 -----
                   - 0s 35ms/step
1/1 -
1/1 -
                   - 0s 40ms/step
                  --- 0s 41ms/step
1/1 -
                   - 0s 47ms/step
1/1 ———— 0s 33ms/step
                  — 0s 35ms/step
1/1 -
                   — 0s 37ms/step - loss: 0.0024
1/1 -
           0s 54ms/step - loss: 0.0023
                   - 0s 42ms/step
                    - 0s 42ms/step
1/1 -
1/1 -----
                   - 0s 37ms/step
1/1 0s 34ms/step
                   - 0s 40ms/step
1/1 -
                  -- 0s 40ms/step
                    - 0s 36ms/step
                    - 0s 51ms/step
1/1 -
1/1 -----
               0s 35ms/step
1/1 -
                   - 0s 35ms/step
1/1 -
                  — 0s 32ms/step
1/1 ———— 0s 47ms/step
                   - 0s 29ms/step
1/1 -
                    - 0s 39ms/step
1/1 -
                   - 0s 30ms/step
1/1 -
1/1 Os 45ms/step
                    - 0s 34ms/step
1/1 -
                   — 0s 33ms/step
                    - 0s 33ms/step
                   - 0s 33ms/step
1/1 -
                Os 32ms/step - loss: 0.0013
1/1 -
1/1 -
                   - 0s 37ms/step - loss: 0.0013
                   - 0s 32ms/step
1/1 -
               0s 32ms/step
1/1 -
                   - 0s 36ms/step
    0s 44ms/step
1/1 -
                    - 0s 31ms/step
1/1 -
           0s 30ms/step
1/1 -
                   - 0s 33ms/step
1/1 -
           0s 31ms/step
```

1/1					
1/1					
1/1	0s	40ms/step			
1/1					
1/1	0s	30ms/step			
1/1	0s	26ms/step			
1/1	0s	28ms/step			
1/1	0s	39ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1			-	loss:	0.0015
1/1	0s	29ms/step			
1/1	0s	35ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	33ms/step			
1/1	0s	34ms/step			
1/1					
1/1					
1/1	0s	31ms/step			
1/1					
1/1	0s	32ms/step			
1/1	0s	36ms/step			
1/1	0s	32ms/step			
1/1	0s	43ms/step			
1/1	0s	33ms/step			
1/1					
1/1					
1/1			-	loss:	0.0023
1/1	0s	50ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	28ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	36ms/step			
1/1	0s	43ms/step			
1/1					
1/1	0s	30ms/step			

```
1/1 -----
           Os 37ms/step - loss: 0.0030
          Os 34ms/step - loss: 0.0030
Epoch: 093/149 | Loss: 0.0030 | Episodes: 459 | Win count: 4 | Win rate: 0.043 | tim
e: 11.28 minutes
1/1 -----
                   - 0s 34ms/step
           0s 31ms/step
1/1 -----
1/1 -
                  — 0s 29ms/step
1/1 -
                  --- 0s 34ms/step
                   - 0s 29ms/step
1/1 -
                   - 0s 32ms/step
     0s 30ms/step
1/1 -
                Os 50ms/step
1/1 -----
                  — 0s 47ms/step
1/1 -
                   - 0s 34ms/step
1/1 -
                   - 0s 41ms/step
1/1 -
                    - 0s 33ms/step
1/1 -
1/1 -
                   - 0s 35ms/step
                 Os 29ms/step
1/1 ----
                   - 0s 33ms/step
1/1 -
1/1 -
                   - 0s 46ms/step
                  — 0s 33ms/step
1/1 -
                   - 0s 39ms/step
1/1 ———— 0s 34ms/step
                   - 0s 42ms/step
1/1 -
                   — 0s 32ms/step - loss: 0.0029
1/1 -
           0s 46ms/step - loss: 0.0029
                   - 0s 38ms/step
                    - 0s 29ms/step
1/1 -
1/1 -----
                   - 0s 33ms/step
1/1 Os 31ms/step
                   - 0s 35ms/step
1/1 -
                  — 0s 37ms/step
                    - 0s 34ms/step
                    - 0s 30ms/step
1/1 -
1/1 -----
               Os 31ms/step
1/1 -
                   - 0s 42ms/step
1/1 -
                  -- 0s 40ms/step
1/1 0s 35ms/step
                   - 0s 32ms/step
1/1 -
                    - 0s 33ms/step
1/1 -
                   - 0s 37ms/step
1/1 -
1/1 0s 37ms/step
                    - 0s 44ms/step
1/1 -
                   — 0s 33ms/step
                    - 0s 42ms/step
                   - 0s 37ms/step
1/1 -
                 Os 39ms/step - loss: 0.0020
1/1 -
1/1 -
                   - 0s 50ms/step - loss: 0.0019
                    - 0s 41ms/step
1/1 -
               Os 35ms/step
1/1 -
                    - 0s 40ms/step
    Os 28ms/step
1/1 -
                    - 0s 34ms/step
1/1 -
1/1 -
           Os 35ms/step
                   - 0s 29ms/step
1/1 -
           0s 38ms/step
```

```
1/1 -
                    —— 0s 44ms/step
                       - 0s 35ms/step
                       - 0s 32ms/step
1/1 -
1/1 -
                       - 0s 41ms/step
                       - 0s 28ms/step
1/1 -
                       - 0s 38ms/step
1/1 -
1/1 -
                       - 0s 39ms/step
                       - 0s 38ms/step
                       - 0s 34ms/step
1/1 -
                       - 0s 40ms/step
                       - 0s 40ms/step
1/1 -
1/1 -----
                       - 0s 38ms/step
                      - 0s 38ms/step - loss: 0.0026
1/1 -
                       - 0s 32ms/step - loss: 0.0026
1/1 -
                       - 0s 28ms/step
1/1 -
                       - 0s 35ms/step
1/1 -
1/1 -
                       - 0s 32ms/step
                      - 0s 32ms/step
1/1 ---
                       - 0s 30ms/step
1/1 -
1/1 -
                       - 0s 42ms/step
                       - 0s 36ms/step
1/1 -
                       - 0s 35ms/step
1/1 -----
                     — 0s 44ms/step
                       - 0s 31ms/step
1/1 -
                       - 0s 33ms/step
1/1 -
                   Os 27ms/step
                       - 0s 30ms/step
                       - 0s 38ms/step
1/1 -
                       - 0s 36ms/step
1/1 -
                     — 0s 34ms/step
1/1 -----
                       - 0s 37ms/step
1/1 -
                      — 0s 28ms/step
                       - 0s 32ms/step
                       - 0s 37ms/step
1/1 -
                    Os 32ms/step - loss: 0.0032
1/1 -
               0s 38ms/step - loss: 0.0030
Epoch: 094/149 | Loss: 0.0030 | Episodes: 463 | Win count: 4 | Win rate: 0.042 | tim
e: 11.39 minutes
                       - 0s 30ms/step
1/1 -
                       - 0s 29ms/step
1/1 -
1/1 ----
                       - 0s 31ms/step
1/1 -----
                    Os 35ms/step
                       - 0s 34ms/step
1/1 -
                      — 0s 31ms/step
                       - 0s 31ms/step
                       - 0s 27ms/step
1/1 -
1/1 -
                     — 0s 26ms/step
1/1 -
                       - 0s 34ms/step
                       - 0s 25ms/step
1/1 -
                      — 0s 30ms/step
1/1 -
                       - 0s 36ms/step
                   Os 27ms/step
1/1 -
                       - 0s 31ms/step
1/1 -
1/1 -
                    --- 0s 52ms/step
                       - 0s 31ms/step
1/1 -
              0s 48ms/step
```

1/1	0s	41ms/step			
1/1					
1/1	0s	42ms/step	-	loss:	0.0022
1/1	0s	37ms/step	-	loss:	0.0022
1/1	0s	29ms/step			
1/1	0s	26ms/step			
1/1					
1/1					
1/1					
1/1					
1/1 ———————————————————————————————————	05	331113/Step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	44ms/step			
1/1	0s	37ms/step			
1/1					
1/1	0s	41ms/step	-	loss:	0.0032
1/1	0s	49ms/step	-	loss:	0.0031
1/1	0s	36ms/step			
1/1	0s	38ms/step			
1/1	0s	44ms/step			
1/1	0s	32ms/step			
1/1	0s	35ms/step			
1/1					
1/1	0s	32ms/step			
1/1	0s	35ms/step			
1/1	0s	42ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1			_	1055.	0 0040
1/1					
1/1				1033.	0.0037
1/1					
1/1					
1/1	05	38mc/c+on			
1/1					
1/1					
1/1					
1/1					
-/-	03	2/1113/3cep			

1/1	۵s	34ms/sten			
1/1					
1/1					
1/1	05	39111S/Step			
1/1	05	40ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	34ms/step			
1/1					
1/1	0s	33ms/step	-	loss:	0.0033
1/1			-	loss:	0.0031
1/1					
1/1	0s	32ms/step			
1/1	0s	36ms/step			
1/1					
1/1					
1/1	05	37ms/sten			
1/1					
1/1	95	37ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	Jons/Step			
1/1	05	46ms/step			
1/1	05	33ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1			-	loss:	0.0033
1/1	0s	34ms/step			
1/1					
1/1	0s	25ms/step			
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1					
1/1					
1/1					
1/1	0s	35ms/step			
1/1	0s	38ms/step			
1/1	0s	30ms/step			
1/1					
1/1					
1/1	0s	47ms/sten			
1/1	05	37ms/sten			
1/1					
1/1					
1/1	05	39ms/sten			
-, -	53	22113/3cep			

```
1/1 -
               Os 50ms/step - loss: 0.0028
                Os 51ms/step - loss: 0.0028
                   - 0s 31ms/step
1/1 -
1/1 -
                    - 0s 35ms/step
                    - 0s 29ms/step
1/1 -
                   — 0s 35ms/step
1/1 ----
1/1 -
                   - 0s 30ms/step
                   - 0s 40ms/step
                    - 0s 36ms/step
1/1 -
                   - 0s 32ms/step
               Os 30ms/step
1/1 -
1/1 -----
                 --- 0s 30ms/step
                  — 0s 31ms/step
1/1 -
                   - 0s 35ms/step
1/1 -
                   - 0s 44ms/step
1/1 -
1/1 -
                    0s 43ms/step
1/1 -
                   - 0s 35ms/step
                  —— 0s 47ms/step
1/1 ---
                   - 0s 37ms/step
1/1 -
                   - 0s 33ms/step
     0s 30ms/step
                   - 0s 32ms/step
1/1 -
1/1 ——— 0s 55ms/step - loss: 0.0022
1/1 — 0s 49ms/step - loss: 0.0021
Epoch: 095/149 | Loss: 0.0021 | Episodes: 470 | Win count: 4 | Win rate: 0.042 | tim
e: 11.59 minutes
1/1 — 0s 26ms/step
1/1 -----
                   - 0s 32ms/step
1/1 0s 37ms/step
                   - 0s 31ms/step
1/1 -
                  — 0s 35ms/step
                    - 0s 34ms/step
                    - 0s 40ms/step
1/1 -
               Os 30ms/step
1/1 -
1/1 -
                   - 0s 31ms/step
1/1 -
                  — 0s 35ms/step
1/1 ---- 0s 38ms/step
                   - 0s 33ms/step
1/1 -
                    - 0s 46ms/step
1/1 -
                   - 0s 34ms/step
1/1 -
1/1 Os 28ms/step
                    - 0s 41ms/step
1/1 -
                   — 0s 31ms/step
                    - 0s 31ms/step
                   - 0s 34ms/step
1/1 -
1/1 -
                 —— 0s 49ms/step - loss: 0.0018
1/1 -
                   - 0s 48ms/step - loss: 0.0020
                    - 0s 28ms/step
1/1 -
               Os 30ms/step
1/1 -
                    - 0s 30ms/step
    0s 29ms/step
1/1 -
                    - 0s 32ms/step
1/1 -
           0s 38ms/step
1/1 -
                   - 0s 37ms/step
1/1 -
1/1 ———— 0s 40ms/step
```

1/1	0s	30ms/step			
1/1					
1/1	0s	40ms/step			
1/1	0s	36ms/step			
1/1	0s	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	05	34111S/Step			
1/1	0s	31ms/step			
1/1					
1/1	0s	37ms/step	-	loss:	0.0022
1/1			-	loss:	0.0022
1/1					
1/1					
1/1	0s	36ms/step			
1/1	0s	32ms/step			
1/1					
1/1	as	36ms/sten			
1/1					
1/1					
1/1					
1/1					
1/1	0s	34ms/step			
1/1					
1/1	0s	30ms/step			
1/1					
1/1					
1/1	0s	39ms/step			
1/1	0s	37ms/step			
1/1					
1/1					
1/1	05	33ms/sten			
1/1			_	1055.	0 0024
1/1	OS OS	19ms/step	_	1055.	0.0024
1/1				1033.	0.0024
1/1					
1/1					
1/1					
1/1	0s	39ms/step			
1/1					
1/1	0s	39ms/step			
1/1					
1/1					
1/1	0s	45ms/step			
1/1	0s	35ms/step			
1/1	0s	44ms/step			
1/1					
1/1	95	35ms/sten			
1/1					
1/1	O.S	35mc/c+on			
1/1					
1/1					
1/1					
1/1	ØS.	46ms/step			

0s	38ms/step	-	loss:	0.0032
		-	loss:	0.0031
0s	33ms/step			
0s	34ms/step			
0s	30ms/step			
0s	34ms/step			
		-	loss:	0.0029
0s	31ms/step			
0s	29ms/step			
0s	28ms/step			
05	35ms/step			
			1	0 0020
		-	1055:	0.0028
05	33ms/step			
05	∠oms/step			
05	42ms/step			
05	Joins/Step			
	0 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0	Os43ms/stepOs33ms/stepOs40ms/stepOs37ms/stepOs38ms/stepOs26ms/stepOs34ms/stepOs30ms/stepOs37ms/stepOs37ms/stepOs37ms/stepOs37ms/stepOs37ms/stepOs32ms/stepOs32ms/stepOs34ms/stepOs34ms/stepOs31ms/stepOs31ms/stepOs31ms/stepOs32ms/stepOs32ms/stepOs32ms/stepOs32ms/stepOs29ms/stepOs29ms/stepOs39ms/stepOs39ms/stepOs36ms/stepOs36ms/stepOs35ms/stepOs35ms/stepOs35ms/stepOs32ms/stepOs35ms/stepOs32ms/stepOs32ms/stepOs32ms/stepOs32ms/stepOs32ms/stepOs32ms/stepOs32ms/stepOs32ms/stepOs32ms/stepOs32ms/stepOs32ms/stepOs32ms/stepOs32ms/stepOs32ms/stepOs32ms/stepOs32ms/stepOs32ms/stepOs32ms/stepOs32ms/	OS 43ms/step - OS 33ms/step OS 40ms/step OS 37ms/step OS 38ms/step OS 26ms/step OS 34ms/step OS 30ms/step OS 37ms/step OS 34ms/step OS 34ms/step OS 34ms/step OS 34ms/step OS 34ms/step OS 34ms/step OS 31ms/step OS 31ms/step OS 31ms/step OS 31ms/step OS 32ms/step OS 29ms/step OS 29ms/step OS 29ms/step OS 29ms/step OS 35ms/step	0s         40ms/step           0s         30ms/step           0s         37ms/step           0s         26ms/step           0s         34ms/step           0s         34ms/step           0s         30ms/step           0s         37ms/step           0s         37ms/step           0s         30ms/step           0s         31ms/step           0s         31ms/step           0s         31ms/step           0s         31ms/step           0s         31ms/step           0s         32ms/step           0s         32ms/step           0s         34ms/step           0s         32ms/step           0s         32ms/step           0s         39ms/step           0s         39ms/step           0s         39ms/step           0s         32ms/step           0s         32ms/step

```
1/1 -
                     —— 0s 39ms/step
                       - 0s 40ms/step
                        - 0s 33ms/step
1/1 -
1/1 -
                        - 0s 31ms/step
                        - 0s 37ms/step
1/1 -
                        - 0s 36ms/step
1/1 -
1/1 -
                        - 0s 46ms/step
1/1 -
                        - 0s 35ms/step
                        - 0s 44ms/step
1/1 -
                       - 0s 33ms/step
                     Os 39ms/step - loss: 0.0034
1/1 -
                    Os 39ms/step - loss: 0.0034
1/1 -
Epoch: 096/149 | Loss: 0.0034 | Episodes: 477 | Win count: 4 | Win rate: 0.041 | tim
e: 11.77 minutes
1/1 -
                       - 0s 31ms/step
1/1 -
                        - 0s 33ms/step
1/1 -
                       - 0s 40ms/step
1/1 -----
                      — 0s 35ms/step
                       - 0s 34ms/step
1/1 -
1/1 -
                        - 0s 46ms/step
                       - 0s 38ms/step
                        - 0s 32ms/step
1/1 -
1/1 ----
                        - 0s 32ms/step
                        - 0s 27ms/step
1/1 -
                       - 0s 33ms/step
1/1 -
                       - 0s 34ms/step
                       - 0s 29ms/step
                        - 0s 33ms/step
1/1 -
                        - 0s 32ms/step
1/1 -
                      — 0s 29ms/step
1/1 ----
                        - 0s 37ms/step
1/1 -
                       - 0s 32ms/step
                        - 0s 32ms/step
                        - 0s 47ms/step
1/1 -
                      —— 0s 35ms/step - loss: 0.0031
1/1 -
                       - 0s 38ms/step - loss: 0.0031
1/1 -
1/1 -
                       - 0s 53ms/step
                       0s 35ms/step
                        - 0s 28ms/step
1/1 -
                        - 0s 31ms/step
1/1 -
                        - 0s 27ms/step
1/1 -
1/1 ---
                      — 0s 36ms/step
                        - 0s 30ms/step
1/1 -
                       0s 36ms/step
                        - 0s 37ms/step
                        - 0s 32ms/step
1/1 -
1/1 -
                        - 0s 26ms/step
1/1 -
                       - 0s 42ms/step
                        - 0s 33ms/step
1/1 -
                       0s 40ms/step
1/1 -
                        - 0s 35ms/step
1/1 -
                        - 0s 44ms/step
                        - 0s 42ms/step
1/1 -
                       - 0s 44ms/step
1/1 -
                       - 0s 32ms/step
1/1 -
                    —— 0s 49ms/step
```

```
1/1 -
               Os 44ms/step - loss: 0.0019
                 Os 37ms/step - loss: 0.0018
                   — 0s 37ms/step
1/1 -
1/1 -
                    - 0s 38ms/step
                    - 0s 40ms/step
1/1 -
                   — 0s 35ms/step
1/1 -----
1/1 -
                    - 0s 29ms/step
                    - 0s 33ms/step
                    - 0s 32ms/step
1/1 -
                    - 0s 32ms/step
               Os 31ms/step
1/1 -
1/1 -----
                    - 0s 43ms/step
                   -- 0s 40ms/step
1/1 -
                    - 0s 35ms/step
1/1 -
1/1 -
                    — 0s 31ms/step
                    - 0s 34ms/step
1/1 -
1/1 -
                    - 0s 36ms/step
                  — 0s 35ms/step
1/1 ---
                    - 0s 33ms/step
1/1 -
                    - 0s 41ms/step
                  —— 0s 36ms/step
1/1 -
                    - 0s 31ms/step
1/1 — 0s 40ms/step - loss: 0.0025
                    - 0s 56ms/step - loss: 0.0025
1/1 -
                   — 0s 37ms/step
1/1 -
           0s 33ms/step
                    - 0s 34ms/step
                    - 0s 34ms/step
1/1 -
1/1 -----
                    - 0s 36ms/step
1/1 Os 41ms/step
                    - 0s 34ms/step
1/1 -
                   — 0s 35ms/step
                    - 0s 42ms/step
                    - 0s 34ms/step
1/1 -
                Os 37ms/step
1/1 -----
1/1 -
                    - 0s 38ms/step
1/1 -
                   -- 0s 38ms/step
1/1 ---- 0s 28ms/step
                    - 0s 30ms/step
1/1 -
                    - 0s 31ms/step
1/1 -
1/1 ----
                    - 0s 38ms/step
1/1 0s 29ms/step
                    - 0s 34ms/step
1/1 -
                 Os 30ms/step
                    - 0s 40ms/step - loss: 0.0023
1/1 — 0s 43ms/step - 10ss: 0.0022
Epoch: 097/149 | Loss: 0.0022 | Episodes: 481 | Win count: 4 | Win rate: 0.041 | tim
e: 11.88 minutes
1/1 -
                    - 0s 32ms/step
                Os 32ms/step
1/1 -
                    - 0s 35ms/step
1/1 — 0s 35ms/step
                  — 0s 34ms/step
1/1 -
               Os 30ms/step
1/1 -
                    - 0s 33ms/step
1/1 -
           Os 41ms/step
```

1/1					
1/1					
1/1	0s	31ms/step			
1/1	0s	44ms/step			
1/1					
1/1	0s	32ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1				_	
1/1	0s	54ms/step	-	loss:	0.0023
1/1			-	loss:	0.0022
1/1					
1/1					
1/1	0s	29ms/step			
1/1	0s	34ms/step			
1/1	0s	31ms/step			
1/1	0s	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	29ms/step			
1/1	05	34ms/step			
1/1					
1/1					
1/1					
1/1					
1/1				_	
1/1					
1/1			-	loss:	0.0034
1/1	0s	32ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	27ms/step			
1/1					
1/1					
1/1	0s	36ms/step			
1/1	0s	33ms/step			
1/1	0s	43ms/step			
1/1					
1/1					
1/1					
1/1	05	46ms/sten			
1/1	05	28ms/sten			
1/1					
1/1					
1/1	95	39ms/sten			
±/ ±	03	Jours/ steb			

```
1/1 -
           Os 37ms/step - loss: 0.0024
          Os 51ms/step - loss: 0.0024
Epoch: 098/149 | Loss: 0.0024 | Episodes: 484 | Win count: 4 | Win rate: 0.040 | tim
e: 11.96 minutes
1/1 ---
                   - 0s 34ms/step
           0s 28ms/step
1/1 ----
1/1 -
                  — 0s 28ms/step
1/1 -
                  --- 0s 32ms/step
                    - 0s 38ms/step
1/1 -
                   - 0s 30ms/step
     0s 29ms/step
1/1 -
1/1 -----
                 ____ 0s 34ms/step
                  — 0s 34ms/step
1/1 -
                    - 0s 32ms/step
1/1 -
                   - 0s 29ms/step
1/1 -
                    - 0s 35ms/step
1/1 -
1/1 -
                   - 0s 31ms/step
                  —— 0s 36ms/step
1/1 -----
                   - 0s 32ms/step
1/1 -
1/1 -
                   - 0s 34ms/step
                  — 0s 38ms/step
1/1 -
                    - 0s 38ms/step
1/1 ———— 0s 29ms/step
                   - 0s 41ms/step
1/1 -
                   — 0s 39ms/step - loss: 0.0035
1/1 -
           0s 38ms/step - loss: 0.0035
                   - 0s 31ms/step
                    - 0s 30ms/step
1/1 -
1/1 -----
                    - 0s 34ms/step
1/1 0s 34ms/step
                    - 0s 31ms/step
1/1 -
                   — 0s 43ms/step
                    - 0s 35ms/step
                    - 0s 34ms/step
1/1 -
1/1 -----
               Os 36ms/step
1/1 -
                   - 0s 39ms/step
1/1 -
                  -- 0s 56ms/step
1/1 0s 35ms/step
                   - 0s 30ms/step
1/1 -
                    - 0s 43ms/step
1/1 -
                   - 0s 32ms/step
1/1 -
1/1 Os 31ms/step
                    - 0s 31ms/step
1/1 -
                   — 0s 43ms/step
                    - 0s 35ms/step
                    - 0s 37ms/step
1/1 -
1/1 -
                 —— 0s 38ms/step - loss: 0.0030
1/1 -
                   - 0s 44ms/step - loss: 0.0028
                    - 0s 30ms/step
1/1 -
               0s 34ms/step
1/1 -
                    - 0s 43ms/step
1/1 ———— 0s 35ms/step
                  Os 45ms/step
1/1 -
           Os 40ms/step
1/1 -
                   - 0s 37ms/step
1/1 -
           0s 32ms/step
```

```
1/1 -
               Os 34ms/step
                   - 0s 29ms/step
                   - 0s 32ms/step
1/1 -
                   - 0s 36ms/step
1/1 -
                   - 0s 33ms/step
1/1 -
                   - 0s 28ms/step
1/1 ----
1/1 -
                   - 0s 30ms/step
1/1 -
                   - 0s 32ms/step
                   - 0s 45ms/step
                   - 0s 31ms/step
1/1 -
    0s 33ms/step
1/1 -
1/1 — 0s 44ms/step
               Os 45ms/step - loss: 0.0028
1/1 -
Epoch: 099/149 | Loss: 0.0026 | Episodes: 487 | Win count: 5 | Win rate: 0.050 | tim
e: 12.05 minutes
1/1 -----
                  — 0s 48ms/step
1/1 Os 31ms/step
                   - 0s 38ms/step
1/1 -
1/1 -
                   - 0s 30ms/step
                  — 0s 34ms/step
1/1 -
                   - 0s 30ms/step
1/1 ———— 0s 43ms/step
                   - 0s 33ms/step
1/1 -
                   - 0s 32ms/step
1/1 -
          0s 33ms/step
1/1 -
                   - 0s 31ms/step
                   - 0s 37ms/step
1/1 -
1/1 -----
                   - 0s 30ms/step
1/1 0s 34ms/step
                   - 0s 32ms/step
1/1 -
                   — 0s 36ms/step
                   - 0s 41ms/step
                   - 0s 46ms/step
1/1 -
                 Os 33ms/step
1/1 -
1/1 -
                   - 0s 35ms/step
1/1 -
                  —— 0s 48ms/step - loss: 0.0030
          0s 42ms/step - loss: 0.0029
                   - 0s 37ms/step
1/1 -
                   - 0s 34ms/step
1/1 -
                   - 0s 29ms/step
1/1 -
1/1 Os 27ms/step
                   - 0s 30ms/step
1/1 -
                   — 0s 34ms/step
                   - 0s 33ms/step
                   - 0s 27ms/step
1/1 -
1/1 -
                  — 0s 34ms/step
1/1 -
                   - 0s 34ms/step
                   - 0s 45ms/step
1/1 -
                   — 0s 51ms/step
1/1 -
                   - 0s 33ms/step
1/1 -
                   - 0s 32ms/step
                   - 0s 34ms/step
1/1 -
1/1 -
           Os 32ms/step
                   - 0s 34ms/step
1/1 -
           0s 38ms/step
```

1/1	0s	33ms/step			
1/1					
1/1	0s	38ms/step	-	loss:	0.0030
1/1	0s	41ms/step	-	loss:	0.0029
1/1	0s	31ms/step			
1/1	0s	42ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	49ms/step			
1/1					
1/1	0s	34ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1					
1/1	05	34ms/step			
1/1					
1/1					
1/1				1000	0 0029
1/1					
1/1				1033.	0.0024
1/1	05	36ms/step			
1/1	0s	35ms/step			
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1					
1/1					
1/1	0s	35ms/step			
1/1	0s	29ms/step			
1/1	0s	36ms/step			
1/1					
1/1					
1/1					
1/1	0s	53ms/step			
1/1	0s	46ms/step			
1/1					
1/1 ———————————————————————————————————				1	0.0000
1/1	05	3/ms/step	-	1055:	0.0023
1/1			-	1022:	0.0025
1/1					
1/1					
1/1	96	32ms/step			
1/1					
1/1	05	41ms/sten			
1/1					
1/1	0s	40ms/step			

2025-06-08, 00:45

```
1/1 -
                   ____ 0s 37ms/step
                       - 0s 38ms/step
                       - 0s 39ms/step
1/1 -
1/1 -
                       - 0s 45ms/step
                       - 0s 39ms/step
1/1 -
                       - 0s 49ms/step
1/1 -
1/1 -
                       - 0s 39ms/step
1/1 -
                       - 0s 28ms/step
                       - 0s 30ms/step
1/1 -
                       - 0s 36ms/step
                       - 0s 38ms/step
1/1 -
1/1 -----
                       - 0s 33ms/step
                      — 0s 45ms/step - loss: 0.0340
1/1 -
                       - 0s 39ms/step - loss: 0.0325
1/1 -
                       - 0s 34ms/step
1/1 -
1/1 -
                       - 0s 28ms/step
1/1 -
                       - 0s 45ms/step
                      — 0s 40ms/step
1/1 ---
                       - 0s 33ms/step
1/1 -
1/1 -
                       - 0s 36ms/step
                       - 0s 42ms/step
                       - 0s 31ms/step
1/1 -
1/1 -----
                     —— 0s 42ms/step
                       - 0s 34ms/step
1/1 -
                       - 0s 30ms/step
1/1 -
                   ——— 0s 33ms/step
                       - 0s 36ms/step
                       - 0s 38ms/step
1/1 -
                       - 0s 39ms/step
1/1 -
                     --- 0s 30ms/step
1/1 -----
                       - 0s 34ms/step
1/1 -
                      — 0s 32ms/step
                       - 0s 46ms/step
                       - 0s 39ms/step
1/1 -
                    Os 36ms/step - loss: 0.0033
1/1 -
               0s 45ms/step - loss: 0.0032
Epoch: 100/149 | Loss: 0.0032 | Episodes: 493 | Win count: 5 | Win rate: 0.050 | tim
e: 12.21 minutes
                       - 0s 30ms/step
1/1 -
                       - 0s 35ms/step
1/1 -
1/1 -----
                       - 0s 31ms/step
1/1 -----
                    —— 0s 32ms/step
                       - 0s 29ms/step
1/1 -
                      — 0s 35ms/step
                       - 0s 32ms/step
                       - 0s 32ms/step
1/1 -
1/1 -
                     — 0s 31ms/step
1/1 -
                       - 0s 35ms/step
                       - 0s 39ms/step
1/1 -
                      — 0s 38ms/step
1/1 -
                       - 0s 38ms/step
1/1 -
                       - 0s 38ms/step
                       - 0s 42ms/step
1/1 -
                    —— 0s 45ms/step
1/1 -
                       - 0s 35ms/step
1/1 -
             0s 43ms/step
```

1/1	۵c	3/ms/stan			
1/1	05	30ms/step			
1/1				1000	0 0021
1/1	05	12ms/step	_	1055.	0.0021
1/1			_	1033.	0.0021
1/1					
1/1					
1/1					
1/1					
1/1	05	20ms/step			
1/1					
1/1	05	19ms / step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	43ms/step			
1/1	05	38ms/step			
1/1					
1/1					
1/1					
1/1					
1/1				1	0 0020
1/1	05	36ms/step	-	1055:	0.0039
			-	1088:	0.0040
1/1 ———————————————————————————————————	05	JIMS/Step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	95	37ms/step			
1/1					
1/1					
1/1					
1/1	0s	43ms/step			
1/1					
1/1					
1/1					
1/1	0s	53ms/step			
1/1	0s	40ms/step			
1/1	0s	54ms/step			
1/1					
1/1	0s	36ms/step			
1/1					
1/1			-	loss:	0.0271
1/1	0s	29ms/step			
1/1	0s	27ms/step			
1/1					
1/1					
1/1	0s	31ms/step			
1/1					
1/1					
1/1	0s	36ms/step			

1/1	0s	29ms/step
1/1	0s	37ms/step
1/1		
1/1		
1/1	0s	66ms/step
1/1		
1/1	0s	36ms/step
1/1	0s	32ms/step
1/1		
1/1	0s	31ms/step
1/1		
1/1		
1/1	0s	40ms/step - loss: 0.0019
1/1	0s	45ms/step - loss: 0.0021
1/1	0s	32ms/step
1/1	0s	28ms/step
1/1		
1/1		
1/1		
1/1		
1/1	0s	40ms/step
1/1		
1/1		
1/1		
1/1		
1/1		
1/1		
1/1		
1/1		
1/1	0s	25ms/step
1/1	0s	33ms/step
1/1	0s	36ms/step
1/1	0s	42ms/step
1/1		
		34ms/step - loss: 0.0028
		49ms/step - loss: 0.0028
1/1		
1/1		
1/1	0s	33ms/step
1/1		
1/1		
1/1		
1/1		
1/1		
1/1	0s	40ms/step
1/1		
1/1		
1/1		
1/1		
1/1		
1/1		
1/1		
1/1		
1/1		
1/1	0s	40ms/step
1/1	0s	39ms/step

```
1/1 -----
            Os 32ms/step - loss: 0.0035
          Os 49ms/step - loss: 0.0037
Epoch: 101/149 | Loss: 0.0037 | Episodes: 499 | Win count: 5 | Win rate: 0.049 | tim
e: 12.38 minutes
1/1 -----
                    - 0s 33ms/step
           0s 33ms/step
1/1 ----
                   — 0s 36ms/step
1/1 -
1/1 -
                   — 0s 30ms/step
                    - 0s 33ms/step
1/1 -
                    - 0s 33ms/step
     0s 31ms/step
1/1 -
1/1 -----
                 Os 30ms/step
                  — 0s 31ms/step
1/1 -
                    - 0s 31ms/step
1/1 -
                    - 0s 32ms/step
1/1 -
                    - 0s 45ms/step
1/1 -
1/1 -
                    - 0s 42ms/step
                  —— 0s 29ms/step
1/1 ----
                    - 0s 36ms/step
1/1 -
1/1 -
                    - 0s 35ms/step
                    - 0s 38ms/step
1/1 -
                    - 0s 34ms/step
1/1 ———— 0s 31ms/step
                    - 0s 41ms/step
1/1 -
                    — 0s 32ms/step - loss: 0.0050
1/1 -
            0s 45ms/step - loss: 0.0052
                    - 0s 33ms/step
                    - 0s 36ms/step
1/1 -
1/1 -----
                    - 0s 28ms/step
1/1 Os 31ms/step
                    - 0s 31ms/step
1/1 -
                   — 0s 31ms/step
                    - 0s 40ms/step
                    - 0s 39ms/step
1/1 -
                  — 0s 34ms/step
1/1 -
1/1 -
                    - 0s 38ms/step
1/1 -
                    - 0s 28ms/step
1/1 0s 33ms/step
                    - 0s 43ms/step
1/1 -
                    - 0s 36ms/step
1/1 -
                    - 0s 45ms/step
1/1 -
1/1 Os 50ms/step
                    - 0s 30ms/step
1/1 -
                    — 0s 45ms/step
                    - 0s 32ms/step
                    - 0s 36ms/step
1/1 -
1/1 -
                 --- 0s 37ms/step - loss: 0.0050
1/1 -
                    - 0s 42ms/step - loss: 0.0050
                    - 0s 47ms/step
1/1 -
                Os 29ms/step
1/1 -
                    - 0s 31ms/step
1/1 -
                    - 0s 32ms/step
                    - 0s 36ms/step
1/1 -
1/1 -
               Os 35ms/step
                    - 0s 34ms/step
1/1 -
            Os 40ms/step
```

```
1/1 -
                  Os 35ms/step
                      - 0s 33ms/step
                      - 0s 30ms/step
1/1 -
1/1 -
                      - 0s 36ms/step
                      - 0s 36ms/step
1/1 -
                      - 0s 30ms/step
1/1 ----
1/1 -
                      - 0s 37ms/step
                      - 0s 36ms/step
                      - 0s 29ms/step
1/1 -
                      - 0s 51ms/step
                      - 0s 39ms/step
1/1 -
1/1 -----
                      - 0s 29ms/step
                     — 0s 47ms/step - loss: 0.0055
1/1 -
                      - 0s 35ms/step - loss: 0.0052
1/1 -
                      - 0s 40ms/step
1/1 -
                      - 0s 27ms/step
1/1 -
1/1 -
                      - 0s 32ms/step
1/1 ---
                     — 0s 30ms/step
                      - 0s 32ms/step
1/1 -
1/1 -
                      - 0s 41ms/step
                      - 0s 35ms/step
                      - 0s 34ms/step
1/1 -
1/1 -----
                    —— 0s 39ms/step
                      - 0s 38ms/step
1/1 -
                      - 0s 47ms/step
1/1 -
                  Os 44ms/step
                      - 0s 46ms/step
                      - 0s 36ms/step
1/1 -
1/1 -----
                      - 0s 43ms/step
                    —— 0s 33ms/step
1/1 -----
                      - 0s 36ms/step
1/1 -
                      — 0s 46ms/step
                      - 0s 30ms/step
                      - 0s 30ms/step
1/1 -
                   Os 32ms/step - loss: 0.0025
1/1 -
              0s 34ms/step - loss: 0.0022
Epoch: 102/149 | Loss: 0.0022 | Episodes: 503 | Win count: 5 | Win rate: 0.049 | tim
e: 12.49 minutes
                      - 0s 40ms/step
1/1 -
                      - 0s 38ms/step
1/1 -
1/1 -----
                      - 0s 41ms/step
1/1 -----
                  Os 38ms/step
                      - 0s 35ms/step
1/1 -
                      — 0s 39ms/step
                      - 0s 28ms/step
                      - 0s 29ms/step
1/1 -
1/1 -
                    — 0s 35ms/step
1/1 -
                      - 0s 32ms/step
                      - 0s 31ms/step
1/1 -
                    —— 0s 38ms/step
1/1 -
                      - 0s 35ms/step
     Os 42ms/step
1/1 -
                      - 0s 30ms/step
1/1 -
                 Os 42ms/step
1/1 -
                      - 0s 39ms/step
1/1 -
             0s 33ms/step
```

1/1	0s	40ms/step			
1/1					
1/1					
1/1			-	loss:	0.0036
1/1					
1/1					
1/1	0s	33ms/step			
1/1	0s	33ms/step			
1/1	0s	33ms/step			
1/1	0s	36ms/step			
1/1	0s	36ms/step			
1/1					
1/1	0s	34ms/step			
1/1	0s	44ms/step			
1/1	0s	64ms/step			
1/1					
1/1					
1/1	0s	43ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1			_	1055.	0 0026
1/1					
1/1				1033.	0.0025
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	35ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	03	3/ms/step			
1/1					
1/1					
1/1					
1/1					
1/1				1000	0 0024
1/1					
1/1			_	1033.	0.0032
1/1	03	26ms/step			
1/1	05	27mc/c+an			
1/1					
1/1					
1/1					
1/1					
1/1					
±/ ±	05	241113/3cep			

```
1/1 -
               Os 33ms/step
                   - 0s 30ms/step
                   - 0s 27ms/step
1/1 -
1/1 -
                    - 0s 46ms/step
                    - 0s 33ms/step
1/1 -
                   — 0s 33ms/step
1/1 ----
                    - 0s 29ms/step
1/1 -
1/1 -
                    - 0s 46ms/step
                    - 0s 33ms/step
1/1 -
                   - 0s 31ms/step
    Os 31ms/step
1/1 -
1/1 0s 37ms/step
              Os 53ms/step - loss: 0.0024
1/1 -
1/1 — Os 54ms/step - loss: 0.0024
Epoch: 103/149 | Loss: 0.0024 | Episodes: 507 | Win count: 5 | Win rate: 0.048 | tim
e: 12.60 minutes
1/1 -----
                  — 0s 29ms/step
1/1 0s 35ms/step
                   - 0s 31ms/step
1/1 -
1/1 -
                   - 0s 48ms/step
                  —— 0s 32ms/step
1/1 -
                    - 0s 37ms/step
1/1 ———— 0s 40ms/step
                    - 0s 47ms/step
1/1 -
                   - 0s 31ms/step
1/1 -
          0s 35ms/step
                   - 0s 48ms/step
                    - 0s 34ms/step
1/1 -
1/1 -----
                    - 0s 34ms/step
1/1 0s 31ms/step
                    - 0s 34ms/step
1/1 -
                   — 0s 42ms/step
                    - 0s 49ms/step
                    - 0s 35ms/step
1/1 -
               Os 33ms/step
1/1 -
1/1 -
                   - 0s 34ms/step
1/1 -
                  —— 0s 39ms/step - loss: 0.0039
          0s 31ms/step - loss: 0.0037
                   - 0s 33ms/step
1/1 -
                    - 0s 32ms/step
1/1 -
                    - 0s 33ms/step
1/1 -
1/1 0s 35ms/step
                    - 0s 32ms/step
1/1 -
                   — 0s 33ms/step
                    - 0s 33ms/step
                    - 0s 33ms/step
1/1 -
1/1 -
                  — 0s 32ms/step
1/1 -
                   - 0s 49ms/step
                    - 0s 42ms/step
1/1 -
               Os 36ms/step
1/1 -
                    - 0s 41ms/step
1/1 -
                    - 0s 37ms/step
                    - 0s 39ms/step
1/1 -
           Os 47ms/step
1/1 -
                   - 0s 39ms/step
1/1 -
           0s 37ms/step
```

1/1	1/1	0-	16			
1/1	1/1	05	46ms/step			
1/1					,	0 0000
1/1	1/1	<b>0</b> S	36ms/step	-	loss:	0.0033
1/1				-	loss:	0.0031
1/1						
1/1						
1/1						
1/1						
1/1	1/1	0s	33ms/step			
1/1						
1/1	1/1	0s	34ms/step			
1/1						
1/1						
1/1						
1/1						
1/1						
1/1	1/1	0s	33ms/step			
1/1	1/1	0s	43ms/step			
1/1	1/1	0s	33ms/step			
1/1	1/1	0s	35ms/step			
1/1	1/1	0s	35ms/step			
1/1	1/1	0s	32ms/step			
1/1						
1/1						
1/1				_	loss:	0.0024
1/1	1/1	0s	34ms/step	_	loss:	0.0021
1/1						
1/1	1/1	0s	55ms/step			
1/1						
1/1						
1/1						
1/1						
1/1						
1/1	1/1	95	33ms/sten			
1/1	1/1		•			
1/1						
1/1						
1/1						
1/1						
1/1						
1/1						
1/1	1/1	95	40ms/sten			
1/1						
1/1	1/1	95	35ms/sten			
1/1						
1/1						
1/1				_	1055.	0 0014
1/1						
1/1					1033.	0.0014
1/1 — 0s 35ms/step 1/1 — 0s 33ms/step 1/1 — 0s 44ms/step 1/1 — 0s 32ms/step 1/1 — 0s 35ms/step 1/1 — 0s 35ms/step	1/1	03	36ms/step			
1/1						
1/1 —	1/1	05	33mc/c+op			
1/1 — 0s 32ms/step 1/1 — 0s 35ms/step						
1/1 ——— 0s 35ms/step	1/1	05	22mc/step			
<b>25</b> 40005/5tep						
	1/1	95	401115/step			

1/1	0s	35ms/step			
1/1					
1/1					
1/1	0s	42ms/step			
1/1					
1/1	0s	41ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	27ms/step			
1/1	0s	32ms/step			
1/1	0s	39ms/step	-	loss:	0.0023
1/1	0s	36ms/step	-	loss:	0.0022
1/1	0s	38ms/step			
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1	0s	38ms/step			
1/1	0s	36ms/step			
1/1	0s	32ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	42ms/step			
1/1					
1/1	0s	32ms/step			
1/1	0s	38ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1			-	loss:	0.0021
1/1	0s	41ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1					
1/1	0s	40ms/step			
1/1					
1/1	0s	30ms/step			
1/1	0s	36ms/step			

```
1/1 -
              Os 39ms/step - loss: 0.0318
                Os 32ms/step - loss: 0.0313
                   — 0s 40ms/step
1/1 ---
1/1 -
                   - 0s 32ms/step
                   - 0s 29ms/step
1/1 -
                  — 0s 33ms/step
1/1 -----
1/1 -
                   - 0s 36ms/step
                   - 0s 40ms/step
                   - 0s 37ms/step
1/1 -
                   - 0s 35ms/step
          0s 34ms/step
1/1 -
1/1 0s 31ms/step
                  — 0s 37ms/step
1/1 -
                   - 0s 35ms/step
1/1 -
                   - 0s 33ms/step
1/1 -
                   0s 34ms/step
1/1 -
1/1 -
                   - 0s 50ms/step
                 —— 0s 39ms/step
1/1 ---
                   - 0s 34ms/step
1/1 -
                   — 0s 35ms/step
     0s 37ms/step
                   - 0s 31ms/step
1/1 -
1/1 ———— 0s 47ms/step - loss: 0.0038
1/1 — 0s 33ms/step - loss: 0.0038
Epoch: 104/149 | Loss: 0.0038 | Episodes: 512 | Win count: 5 | Win rate: 0.048 | tim
e: 12.81 minutes
1/1 — 05 33m3/355r
4/4 — 08 32ms/step
1/1 -----
                   - 0s 48ms/step
1/1 0s 33ms/step
                   - 0s 35ms/step
1/1 -
                 --- 0s 35ms/step
                   - 0s 59ms/step
                   - 0s 35ms/step
1/1 -
1/1 ———— 0s 51ms/step
1/1 -
                  -- 0s 50ms/step
1/1 -
                 --- 0s 41ms/step
1/1 ...... 0s 39ms/step
                   - 0s 39ms/step
1/1 -
                   - 0s 35ms/step
1/1 -
                   - 0s 43ms/step
1/1 -
1/1 Os 42ms/step
                   - 0s 39ms/step
1/1 -
                  — 0s 33ms/step
                   - 0s 49ms/step
                   - 0s 32ms/step
1/1 -
            Os 36ms/step - loss: 0.0021
1/1 -
1/1 -
                   - 0s 42ms/step - loss: 0.0022
                   - 0s 33ms/step
1/1 -
1/1 0s 34ms/step
1/1 -
                   - 0s 39ms/step
    0s 36ms/step
1/1 -
                   - 0s 32ms/step
1/1 -
1/1 -
          Os 34ms/step
                   - 0s 33ms/step
1/1 -
1/1 ———— 0s 44ms/step
```

1/1	0s	40ms/step			
1/1					
1/1					
1/1	05	34ms/step			
1/1					
1/1	05	33ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	43ms/step			
1/1	0s	52ms/step	-	loss:	0.0023
1/1	0s	38ms/step	-	loss:	0.0022
1/1	0s	36ms/step			
1/1					
1/1					
1/1					
1/1	0s	38ms/step			
1/1					
1/1	0s	34ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	36ms/step			
1/1					
1/1	0s	38ms/step			
1/1					
1/1					
1/1					
1/1					
1/1				-	
1/1					
1/1			-	loss:	0.0020
1/1 ———————————————————————————————————	05	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	32ms/step			
1/1					
1/1	03	33ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	35ms/step			
1/1					
1/1	0s	32ms/step			
1/1	0s	33ms/step			
1/1	0s	35ms/step			
		·			

1/1	e	s	38ms/step	-	loss:	0.0028
1/1	e	s	32ms/step	-	loss:	0.0027
1/1	e	s	31ms/step			
1/1	e	s	32ms/step			
1/1						
1/1						
1/1						
1/1						
1/1	0	s	38ms/step			
1/1						
1/1	0	s	54ms/step			
1/1						
1/1						
1/1						
1/1						
1/1						
1/1	0	s	30ms/step			
1/1						
1/1						
1/1						
1/1						
1/1						
1/1						
1/1				-	loss:	0.0018
1/1	0	s	33ms/step			
1/1	0	s	43ms/step			
1/1	0	s	36ms/step			
1/1						
1/1						
1/1						
1/1						
1/1						
1/1	0	s	45ms/step			
1/1						
1/1						
1/1						
1/1						
1/1						
1/1						
1/1						
1/1	0	s	40ms/step			
1/1						
1/1						
1/1						
1/1						
1/1				-	loss:	0.0018
1/1						
1/1						
1/1	0	s	31ms/step			
1/1	0	s	28ms/step			
1/1						
1/1						
1/1						
1/1						
1/1						
1/1	0	s	36ms/step			

```
1/1 -
               Os 34ms/step
                   - 0s 35ms/step
                   - 0s 34ms/step
1/1 ---
                    - 0s 39ms/step
1/1 -
                    - 0s 37ms/step
1/1 -
                   — 0s 34ms/step
1/1 ----
1/1 -
                   - 0s 48ms/step
1/1 -
                   - 0s 31ms/step
                   - 0s 34ms/step
                   - 0s 31ms/step
1/1 -
               0s 42ms/step - loss: 0.0315
1/1 -
1/1 ——— 0s 41ms/step - loss: 0.0306
                 Os 36ms/step
1/1 -
                   - 0s 31ms/step
1/1 -
                   - 0s 37ms/step
1/1 -
                    - 0s 32ms/step
1/1 -
1/1 -
                   - 0s 33ms/step
                  --- 0s 44ms/step
1/1 ----
                   - 0s 30ms/step
1/1 -
1/1 -
                   - 0s 34ms/step
                  — 0s 37ms/step
1/1 -
                   - 0s 39ms/step
1/1 ———— 0s 34ms/step
                   - 0s 33ms/step
1/1 -
                   - 0s 31ms/step
1/1 -
          0s 35ms/step
                   - 0s 35ms/step
                    - 0s 32ms/step
1/1 -
1/1 -----
                   - 0s 35ms/step
1/1 0s 35ms/step
                   - 0s 37ms/step
1/1 -
                Os 32ms/step
    0s 37ms/step - loss: 0.0020
                   - 0s 40ms/step - loss: 0.0018
Epoch: 105/149 | Loss: 0.0018 | Episodes: 512 | Win count: 5 | Win rate: 0.047 | tim
e: 13.03 minutes
1/1 -----
                  — 0s 31ms/step
1/1 ...... 0s 32ms/step
                   - 0s 29ms/step
1/1 -
                    - 0s 37ms/step
1/1 -
     0s 38ms/step
1/1 -----
1/1 Os 49ms/step
                    - 0s 33ms/step
1/1 -
                  --- 0s 29ms/step
                    - 0s 48ms/step
                   - 0s 37ms/step
1/1 -
1/1 -
                Os 34ms/step
1/1 -
                   - 0s 30ms/step
                   - 0s 39ms/step
1/1 -
               Os 33ms/step
1/1 -
                   - 0s 41ms/step
    0s 38ms/step
1/1 -
                    - 0s 45ms/step
1/1 -
          0s 32ms/step
1/1 -
                   - 0s 26ms/step
1/1 -
           0s 44ms/step
```

```
1/1 -
                Os 43ms/step - loss: 0.0034
                    - 0s 42ms/step - loss: 0.0035
                    - 0s 33ms/step
1/1 -
1/1 -
                    - 0s 36ms/step
                    - 0s 35ms/step
1/1 -
                    — 0s 31ms/step
1/1 -----
1/1 -
                    - 0s 32ms/step
                    - 0s 27ms/step
                    - 0s 32ms/step
1/1 -
                    - 0s 32ms/step
                  —— 0s 35ms/step
1/1 -
                    - 0s 35ms/step
1/1 -----
                    - 0s 35ms/step
1/1 -
                    - 0s 38ms/step
1/1 -
                    - 0s 37ms/step
1/1 -
1/1 -
                    - 0s 31ms/step
1/1 -
                    - 0s 45ms/step
                   Os 39ms/step
1/1 ---
                    - 0s 38ms/step
1/1 -
1/1 -
                    - 0s 35ms/step
                  — 0s 33ms/step
                    - 0s 30ms/step
1/1 -
1/1 — 0s 48ms/step - loss: 0.0021
                    - 0s 34ms/step - loss: 0.0022
1/1 -
                    — 0s 33ms/step
1/1 -
           0s 33ms/step
                    - 0s 32ms/step
                    - 0s 37ms/step
1/1 -
1/1 -----
                    - 0s 35ms/step
1/1 Os 49ms/step
                    - 0s 33ms/step
1/1 -
                   — 0s 33ms/step
                    - 0s 37ms/step
                    - 0s 45ms/step
1/1 -
                Os 35ms/step
1/1 -----
1/1 -
                    - 0s 32ms/step
1/1 -
                    - 0s 32ms/step
1/1 ---- 0s 31ms/step
                    - 0s 27ms/step
1/1 -
                    - 0s 30ms/step
1/1 -
1/1 ----
                    - 0s 34ms/step
1/1 Os 28ms/step
                    - 0s 28ms/step
1/1 -
                 Os 34ms/step
                    - 0s 47ms/step - loss: 0.0024
1/1 — 0s 35ms/step - 10ss: 0.0024
Epoch: 106/149 | Loss: 0.0023 | Episodes: 512 | Win count: 5 | Win rate: 0.047 | tim
e: 13.11 minutes
1/1 -
                    - 0s 36ms/step
                Os 36ms/step
                    - 0s 34ms/step
1/1 — 0s 29ms/step
                    - 0s 30ms/step
1/1 -
                Os 37ms/step
1/1 -
                    - 0s 34ms/step
1/1 -
           0s 37ms/step
```

1/1					
1/1					
1/1	0s	33ms/step			
1/1					
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	29ms/step			
1/1					
1/1	0s	29ms/step	-	loss:	0.0030
1/1			-	loss:	0.0029
1/1					
1/1					
1/1					
1/1					
1/1	0s	38ms/step			
1/1					
1/1	0s	42ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	28ms/step			
1/1					
1/1	0s	49ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1			-	loss:	0.0031
1/1	0s	51ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	35ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	32ms/step			
1/1	0s	33ms/step			
1/1					
1/1					
1/1	0s	31ms/step			
1/1	0s	44ms/step			

```
1/1 -----
          Os 32ms/step - loss: 0.0025
          Os 34ms/step - loss: 0.0025
Epoch: 107/149 | Loss: 0.0025 | Episodes: 512 | Win count: 5 | Win rate: 0.046 | tim
e: 13.19 minutes
1/1 -----
                  - 0s 45ms/step
          0s 34ms/step
1/1 -----
1/1 -
                 — 0s 32ms/step
1/1 ---
                 —— 0s 31ms/step
                Os 35ms/step
1/1 -
                  — 0s 37ms/step
    Os 38ms/step
1/1 -
1/1 0s 35ms/step
                 —— 0s 36ms/step
1/1 -
                   - 0s 33ms/step
1/1 -
                  - 0s 38ms/step
1/1 -
                   - 0s 65ms/step
1/1 -
1/1 -
                  - 0s 38ms/step
                 —— 0s 33ms/step
1/1 -----
                   - 0s 38ms/step
1/1 -
1/1 -
                  - 0s 37ms/step
                 —— 0s 30ms/step
1/1 -
                   - 0s 33ms/step
1/1 ———— 0s 32ms/step
                 Os 33ms/step
1/1 -
                  — 0s 46ms/step - loss: 0.0045
1/1 -
          0s 54ms/step - loss: 0.0043
                  - 0s 38ms/step
                   - 0s 28ms/step
1/1 -
1/1 -----
                   - 0s 31ms/step
1/1 Os 30ms/step
                   - 0s 26ms/step
1/1 -
                 — 0s 38ms/step
                   - 0s 32ms/step
                   - 0s 29ms/step
1/1 -
1/1 0s 32ms/step
1/1 -
                   - 0s 32ms/step
1/1 -
                 — 0s 31ms/step
1/1 0s 36ms/step
                  - 0s 34ms/step
1/1 -
                   - 0s 28ms/step
1/1 -
                  - 0s 36ms/step
1/1 ----
1/1 0s 32ms/step
                   - 0s 36ms/step
1/1 -
                  — 0s 32ms/step
                   - 0s 28ms/step
                   - 0s 29ms/step
1/1 -
            Os 31ms/step - loss: 0.0352
1/1 -
1/1 -
                  - 0s 38ms/step - loss: 0.0341
                   - 0s 37ms/step
1/1 -
1/1 0s 29ms/step
1/1 -
                   - 0s 38ms/step
1/1 — 0s 39ms/step
                Os 39ms/step
1/1 -
1/1 -
          Os 46ms/step
                   - 0s 35ms/step
1/1 -
          0s 33ms/step
```

	_				
1/1					
1/1					
1/1	0s	42ms/step			
1/1	0s	34ms/step			
1/1	0s	28ms/step			
1/1	0s	39ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	33ms/step	-	loss:	0.0026
1/1	0s	45ms/step	-	loss:	0.0030
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	29ms/step			
1/1	0s	32ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	05	32ms/step			
1/1					
1/1	0s	33ms/step			
1/1					
1/1					
1/1	0s	31ms/step			
1/1	0s	34ms/step			
1/1					
1/1			_	loss:	0.0031
1/1					
1/1				1033.	0.0050
1/1	05	451115/Step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	30ms/step			
1/1	0s	39ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	33ms/step			
1/1	0s	35ms/step			
1/1	0s	41ms/step			
1/1					
1/1					
1/1	0c	32ms/step			
±/ ±	<del>0</del> 3	JZIII3/Step			

1/1	0-	20/		1	0 0025
1/1					
			-	1055:	0.0026
1/1	<b>0</b> S	33ms/step			
1/1					
1/1	0s	33ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	32ms/step			
1/1	0s	45ms/step			
1/1					
1/1	0s	40ms/step			
1/1	0s	46ms/step			
1/1	0s	32ms/step			
1/1					
1/1					
1/1					
1/1	95	29ms/sten			
1/1					
1/1	as	34ms/step			
1/1			_	1000	0 00/1
1/1					
1/1				1033.	0.0040
1/1					
1/1					
1/1	05	22ms/step			
1/1					
1/1	05	31ms/step			
1/1					
1/1					
1/1 ———————————————————————————————————					
1/1					
1/1	05	45ms/step			
1/1	05	43ms/step			
1/1					
1/1	0s	32ms/step			
1/1					
1/1					
1/1					
1/1	0s	29ms/step			
1/1				_	
1/1	0s	43ms/step	-	loss:	0.0025
1/1			-	loss:	0.0024
1/1					
1/1					
1/1					
1/1					
1/1	0s	30ms/step			
1/1					
1/1	0s	34ms/step			
1/1					
1/1	0s	33ms/step			
1/1	0s	41ms/step			

```
1/1 -
                     —— 0s 31ms/step
                       - 0s 30ms/step
                       - 0s 39ms/step
1/1 -
                        - 0s 32ms/step
                        - 0s 29ms/step
1/1 -
                       - 0s 27ms/step
1/1 -
1/1 -
                       - 0s 36ms/step
                        - 0s 37ms/step
                       - 0s 34ms/step
                       - 0s 47ms/step
1/1 -
                     Os 37ms/step - loss: 0.0303
1/1 -
                   Os 43ms/step - loss: 0.0296
1/1 -
Epoch: 108/149 | Loss: 0.0296 | Episodes: 512 | Win count: 5 | Win rate: 0.046 | tim
e: 13.40 minutes
                       - 0s 36ms/step
1/1 -
1/1 -
                        - 0s 38ms/step
1/1 -
                       - 0s 35ms/step
1/1 -----
                      — 0s 32ms/step
                       - 0s 32ms/step
1/1 -
1/1 -
                       - 0s 31ms/step
                       - 0s 30ms/step
                       - 0s 36ms/step
1/1 -
1/1 -----
                     — 0s 34ms/step
                       - 0s 31ms/step
1/1 -
                       - 0s 34ms/step
1/1 -
                       - 0s 36ms/step
                       - 0s 48ms/step
                        - 0s 33ms/step
1/1 -
                        - 0s 33ms/step
1/1 -
                     — 0s 28ms/step
1/1 -----
                       - 0s 35ms/step
1/1 -
                       - 0s 35ms/step
                        - 0s 34ms/step
                        - 0s 44ms/step
1/1 -
                      —— 0s 46ms/step - loss: 0.0036
1/1 -
                       - 0s 37ms/step - loss: 0.0036
1/1 -
1/1 -
                       - 0s 31ms/step
                       0s 27ms/step
                        - 0s 32ms/step
1/1 -
                        - 0s 31ms/step
1/1 -
                        - 0s 34ms/step
1/1 -
1/1 ---
                     Os 32ms/step
                        - 0s 36ms/step
1/1 -
                       0s 44ms/step
                        - 0s 34ms/step
                        - 0s 38ms/step
1/1 -
1/1 -
                        - 0s 32ms/step
1/1 -
                       - 0s 31ms/step
                        - 0s 32ms/step
1/1 -
                       - 0s 39ms/step
1/1 -
                        - 0s 33ms/step
1/1 -
                        - 0s 31ms/step
                        - 0s 30ms/step
1/1 -
                       — 0s 31ms/step
1/1 -
                       - 0s 36ms/step
1/1 -
                   0s 32ms/step
```

1/1	0s	40ms/step	-	loss:	0.0023
1/1			-	loss:	0.0023
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	38ms/step			
1/1					
1/1	0s	27ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	36ms/step			
1/1					
1/1					
1/1					
1/1					
1/1				-	
1/1					
1/1			-	loss:	0.0022
1/1	05	34ms/step			
1/1	05	3/ms/step			
1/1 ———————————————————————————————————	05	36ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	56ms/step			
1/1					
1/1					
1/1			_	loss:	0.0016
1/1					
1/1					
1/1					
1/1	0s	41ms/step			
1/1	0s	34ms/step			
1/1	0s	34ms/step			
1/1	0s	36ms/step			
1/1	0s	35ms/step			
1/1	0s	31ms/step			
1/1					
1/1	0s	47ms/step			

1/1 0s	21mc/cton			
1/1 — 0s				
1/1 0s				
1/1 ———————————————————————————————————	35ms/step			
1/1 ———— Øs	31ms/step			
1/1 ———— Øs				
1/1 ———— Øs				
1/1 ———— Øs				
1/1 —				
1/1 ———— Øs				
1/1 ———— Øs	39ms/step	_	loss:	0.0328
1/1 0s	33ms/step	_	loss:	0.0318
1/1 0s				
1/1 0s	52ms/step			
1/1 0s				
1/1 — 0s	33ms/sten			
1/1 0s				
1/1 — 0s				
1/1 — 0s				
1/1 0s	20115/Step			
1/1 — 0s	28ms/step			
1/1 — 0s				
1/1 — 0s 1/1 — 0s				
1/1 — 0s				
1/1 ———— 0s				
1/1 — 0s 1/1 — 0s	30ms/step			
1/1 0s	38ms/step			
1/1 0s				
1/1 0s				
1/1 ———— 0s			_	
1/1 ———— Øs				
1/1 0s		-	loss:	0.0025
1/1 ———— Øs				
1/1 ———— Øs				
1/1 ——— Os	34ms/step			
1/1 ———— Øs	38ms/step			
1/1 ———— Øs	45ms/step			
1/1 ———— Øs				
1/1 ———— Øs				
1/1 ———— Øs				
1/1 ———— Øs	39ms/step			
1/1 ———— Øs				
1/1 ———— Øs	29ms/step			
1/1 ———— Øs				
1/1 ———— Øs				
1/1 ———— Øs				
1/1 ———— Øs				
1/1 ———— Øs				
1/1 ———— Øs	31ms/step			
1/1 —	35ms/step			
1/1 — 0s	56ms/step			
1/1 ——— 0s	45ms/step			
1/1 — 0s 1/1 — 0s	37ms/step	-	loss:	0.0032

```
Epoch: 109/149 | Loss: 0.0031 | Episodes: 512 | Win count: 5 | Win rate: 0.045 | tim
e: 13.59 minutes
1/1 -----
                       - 0s 31ms/step
1/1 ----
                        - 0s 35ms/step
                        - 0s 35ms/step
1/1 -
1/1 -----
                        - 0s 31ms/step
1/1 -
                        - 0s 34ms/step
                        - 0s 35ms/step
                        - 0s 47ms/step
                        - 0s 37ms/step
1/1 -
                        - 0s 36ms/step
1/1 -
1/1 -----
                        - 0s 34ms/step
                        - 0s 47ms/step
1/1 -
                        - 0s 44ms/step
1/1 -
                        - 0s 37ms/step
1/1 -
                        - 0s 31ms/step
1/1 -
1/1 -
                        - 0s 36ms/step
                        - 0s 30ms/step
1/1 ---
                        - 0s 30ms/step
1/1 -
1/1 -
                        - 0s 36ms/step
                        - 0s 30ms/step
                        - 0s 39ms/step
1/1 -
1/1 -----
                      — 0s 35ms/step - loss: 0.0040
                        - 0s 47ms/step - loss: 0.0039
1/1 -
                        - 0s 34ms/step
1/1 -
                        - 0s 31ms/step
1/1 -
                        - 0s 38ms/step
                        - 0s 31ms/step
1/1 -
                        - 0s 30ms/step
1/1 -
1/1 -----
                       — 0s 31ms/step
                        - 0s 40ms/step
1/1 -
                        - 0s 36ms/step
                        - 0s 34ms/step
                        - 0s 39ms/step
1/1 -
                        - 0s 40ms/step
1/1 -
1/1 -
                        - 0s 35ms/step
1/1 -
                        - 0s 37ms/step
                        0s 34ms/step
                        - 0s 48ms/step
1/1 -
                        - 0s 38ms/step
1/1 -
                        - 0s 36ms/step
1/1 -
1/1 -----
                       - 0s 32ms/step
                        - 0s 38ms/step
1/1 -
                        - 0s 37ms/step
                        - 0s 36ms/step - loss: 0.0034
                        - 0s 47ms/step - loss: 0.0035
1/1 -
1/1 -
                        - 0s 27ms/step
1/1 -
                        - 0s 37ms/step
                        - 0s 35ms/step
1/1 -
                        0s 30ms/step
1/1 -
                        - 0s 32ms/step
                        - 0s 32ms/step
1/1 -
                        - 0s 38ms/step
1/1 -
                        - 0s 29ms/step
1/1 -
                        - 0s 34ms/step
1/1 -
                       - 0s 38ms/step
```

1/1	95	39ms/sten			
1/1					
1/1					
1/1	05	10ms/step			
1/1					
1/1	05	22ms/step			
1/1					
1/1					
1/1					
1/1				-	
1/1	0s	37ms/step	-	loss:	0.0035
1/1			-	loss:	0.0033
1/1	0s	27ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	46ms/step			
1/1	0s	48ms/step			
1/1	0s	37ms/step			
1/1	0s	44ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	95	32ms/step			
1/1					
1/1	05	321115/Step			
1/1					
1/1					
1/1				1	0 0040
1/1					
1/1			-	1055:	0.0037
1/1					
1/1	05	36ms/step			
1/1	05	38ms/step			
1/1	0s	29ms/step			
1/1					
1/1					
1/1					
1/1	0s	28ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	32ms/step			
1/1					
1/1	0s	36ms/step			
1/1	0s	37ms/step			
1/1	0s	43ms/step	-	loss:	0.0022
1/1	0s	39ms/step	_	loss:	0.0022

Epoch: 110/149   Loss: e: 13.72 minutes	0.0022   Episodes: 512   Win count: 5   Win rate: 0.045   tim
1/1	- 0s 30ms/sten
1/1	- 0s 31ms/step
1/1	
1/1	— 0s 38ms/sten
1/1	
1/1	
1/1	
1/1	
1/1	
1/1	
1/1	── <b>0s</b> 31ms/step
1/1	<b>── 0s</b> 33ms/step
1/1	
1/1	<b>─ 0s</b> 37ms/step
1/1	
1/1	
1/1	<b>── 0s</b> 37ms/step
1/1	<b>─ 0s</b> 39ms/step
1/1	<b>─ 0s</b> 39ms/step
1/1	
1/1	<b>— 0s</b> 56ms/step - loss: 0.0023
	<b>— 0s</b> 40ms/step - loss: 0.0022
1/1	
1/1	
1/1	
1/1	
1/1	── <b>0s</b> 36ms/step
1/1	
1/1	— <b>0s</b> 35ms/step
1/1	
1/1 ———————————————————————————————————	
1/1	
1/1	
1/1	
1/1	
1/1	
1/1	— 0s 37ms/sten
1/1	
1/1	
1/1	
1/1	— 0s 33ms/step
1/1	— <b>0s</b> 44ms/step - loss: 0.0023
1/1	— <b>0s</b> 34ms/step - loss: 0.0022
1/1	— <b>0s</b> 27ms/step
1/1	── <b>0s</b> 42ms/step
1/1	
1/1	── <b>0s</b> 31ms/step
1/1	<b>─ 0s</b> 37ms/step
1/1	<b>─ 0s</b> 30ms/step
1/1	<b>─ 0s</b> 31ms/step
1/1	── <b>0s</b> 37ms/step
1/1	<b>─ 0s</b> 31ms/step
1/1	<b>─ 0s</b> 34ms/step

1/1	95	35ms/sten			
1/1					
1/1					
1/1	0s	43ms/step			
1/1					
1/1	05	35ms/step			
1/1					
1/1					
1/1					
1/1				-	
1/1	0s	40ms/step	-	loss:	0.0022
1/1			-	loss:	0.0021
1/1	0s	34ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	36ms/step			
1/1	0s	33ms/step			
1/1	0s	32ms/step			
1/1	0s	38ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	OS Os	27ms/step			
1/1					
1/1	05	30ms/step			
1/1					
1/1					
				,	0 0000
1/1					
1/1			-	Toss:	0.0022
1/1					
1/1					
1/1	0s	31ms/step			
1/1	0s	33ms/step			
1/1	0s	29ms/step			
1/1					
1/1					
1/1					
1/1	0s	37ms/step			
1/1					
1/1	0s	29ms/step			
1/1					
1/1					
1/1	0s	30ms/step			
1/1	0s	37ms/step			
1/1	0s	32ms/step			
1/1					
1/1	0s	32ms/sten			
1/1					
1/1	95	34ms/sten			
1/1			_	1055.	0.0023
1/1	00	52ms/step	_	1055.	a aass
±/ ±	03	521113/3CEP	-	1022.	0.0022

1/1	0s	29ms/step			
1/1					
1/1	0s	35ms/step			
1/1	0s	36ms/step			
1/1	0s	38ms/step			
1/1	0s	39ms/step			
1/1					
1/1	0s	27ms/step			
1/1					
1/1					
1/1	0s	35ms/step			
1/1	0s	35ms/step			
1/1	0s	36ms/step			
1/1	0s	39ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	30ms/step			
1/1					
1/1	0s	38ms/step	-	loss:	0.0018
1/1			-	loss:	0.0017
1/1					
1/1					
1/1					
1/1					
1/1	0s	30ms/step			
1/1	0s	44ms/step			
1/1	0s	45ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	33ms/step			
1/1	05	32ms/step			
1/1	05	43ms/step			
1/1					
1/1					
1/1			_	1000	0 0010
1/1	05	38ms/step	_	1055.	0.0019
1/1	05	30ms/step	-	1055.	0.0010
1/1	05	35ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	96	36ms/step			
1/1	95	31ms/sten			
1/1					
1/1	05	30ms/sten			
1/1	05	43ms/sten			
· -		, эсер			

```
1/1 -
               Os 38ms/step
                   - 0s 30ms/step
1/1 ---
                   - 0s 28ms/step
1/1 -
                   - 0s 31ms/step
                   - 0s 26ms/step
1/1 -
1/1 -----
                 Os 35ms/step
                   - 0s 29ms/step
1/1 -
                 —— 0s 29ms/step
     0s 35ms/step - loss: 0.0037
           Os 42ms/step - loss: 0.0037
1/1 -
Epoch: 111/149 | Loss: 0.0037 | Episodes: 512 | Win count: 5 | Win rate: 0.045 | tim
e: 13.93 minutes
                  — 0s 33ms/step
1/1 -----
1/1 ———— 0s 32ms/step
                  — 0s 47ms/step
1/1 ----
                   0s 45ms/step
1/1 -----
1/1 -
                   - 0s 39ms/step
1/1 -----
                 — 0s 33ms/step
                   - 0s 34ms/step
1/1 -
1/1 -
                   - 0s 30ms/step
                 — 0s 30ms/step
1/1 -
                   - 0s 43ms/step
1/1 ———— 0s 31ms/step
                   - 0s 35ms/step
1/1 -
                   - 0s 33ms/step
1/1 -
1/1 ---- 0s 30ms/step
                   - 0s 34ms/step
                   - 0s 35ms/step
1/1 -
1/1 -----
                   - 0s 33ms/step
1/1 0s 29ms/step
                   - 0s 33ms/step
1/1 -
                  — 0s 47ms/step
                   - 0s 47ms/step - loss: 0.0022
                   - 0s 32ms/step - loss: 0.0022
1/1 -
1/1 0s 30ms/step
1/1 -
                   - 0s 32ms/step
1/1 -
                  — 0s 33ms/step
1/1 ---- 0s 31ms/step
                   - 0s 35ms/step
1/1 -
                   - 0s 33ms/step
1/1 -
                   - 0s 32ms/step
1/1 ----
1/1 0s 36ms/step
                   - 0s 35ms/step
1/1 -
                  — 0s 27ms/step
                   - 0s 37ms/step
                   - 0s 42ms/step
1/1 -
1/1 ---
                 Os 34ms/step
1/1 -
                   - 0s 35ms/step
                   - 0s 42ms/step
1/1 -
               Os 40ms/step
1/1 -
                   - 0s 30ms/step
1/1 — 0s 42ms/step
                   - 0s 29ms/step
1/1 -
          Os 29ms/step
1/1 -
      Os 30ms/step - loss: 0.0037
1/1 -
1/1 ——— 0s 37ms/step - loss: 0.0035
```

```
1/1 -
             Os 30ms/step
                  - 0s 33ms/step
                 - 0s 37ms/step
1/1 ---
                  - 0s 38ms/step
1/1 -
                  - 0s 31ms/step
1/1 -
                 — 0s 40ms/step
1/1 ----
1/1 -
                  - 0s 32ms/step
                  - 0s 31ms/step
                  - 0s 31ms/step
1/1 -
                  - 0s 30ms/step
         0s 37ms/step
1/1 -
1/1 0s 36ms/step
                — 0s 32ms/step
1/1 -
                  - 0s 33ms/step
1/1 -
1/1 -
                 — 0s 31ms/step
                  - 0s 41ms/step
1/1 -
1/1 -
                  - 0s 31ms/step
                —— 0s 38ms/step
1/1 -----
                  - 0s 39ms/step
1/1 -
1/1 -
                 - 0s 30ms/step
    0s 43ms/step - loss: 0.0022
                  - 0s 42ms/step - loss: 0.0021
1/1 -
1/1 ——— 0s 34ms/step
                  - 0s 32ms/step
1/1 -
                 - 0s 34ms/step
1/1 -
1/1 ———— 0s 51ms/step
                 - 0s 39ms/step
                  - 0s 38ms/step
1/1 -
1/1 -----
                  - 0s 35ms/step
1/1 0s 33ms/step
                  - 0s 40ms/step
1/1 -
                — 0s 32ms/step
                  - 0s 39ms/step
                  - 0s 47ms/step
1/1 -
1/1 0s 32ms/step
1/1 -
                  - 0s 40ms/step
1/1 -
                --- 0s 34ms/step
1/1 ...... 0s 35ms/step
                 - 0s 39ms/step
1/1 -
                  - 0s 31ms/step
1/1 -
1/1 ———— 0s 47ms/step
1/1 Os 35ms/step
Epoch: 112/149 | Loss: 0.0031 | Episodes: 512 | Win count: 5 | Win rate: 0.044 | tim
e: 14.04 minutes
1/1 -----
                —— 0s 57ms/step
1/1 -
                — 0s 32ms/step
                 - 0s 33ms/step
1/1 -
1/1 0s 31ms/step
1/1 -
                  - 0s 40ms/step
1/1 ———— 0s 32ms/step
              Os 31ms/step
1/1 -
      Os 29ms/step
1/1 -
      0s 37ms/step
1/1 -
1/1 ---- 0s 38ms/step
```

1/1	95	32ms/sten			
1/1					
1/1					
1/1	0s	30ms/step			
1/1					
1/1	05	19ms / step			
1/1					
1/1					
1/1					
1/1					
1/1				1	0 0005
1/1	05	33ms/step	-	1055:	0.0025
			-	1055:	0.0024
1/1	05	45ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	28ms/step			
1/1					
1/1	0s	33ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	28ms/step			
1/1					
1/1	0s	34ms/step			
1/1	0s	34ms/step			
1/1					
1/1	0s	30ms/step			
1/1	0s	46ms/step	_	loss:	0.0306
1/1	0s	38ms/step	_	loss:	0.0300
1/1	0s	31ms/step			
1/1	0s	33ms/step			
1/1	0s	34ms/step			
1/1	0s	40ms/step			
1/1	0s	40ms/step			
1/1	0s	40ms/step			
1/1	0s	33ms/step			
1/1					
1/1					
1/1	0s	43ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	38ms/sten			
1/1					
1/1	95	35ms/sten			
1/1			_	1055.	0.0029
1/1	0c	40mc/c+an	_	1022.	0.0025
±/ ±	U3	-tom3/31eh	_	1022.	0.0023

1/1	0s	35ms/step			
1/1					
1/1	0s	26ms/step			
1/1	0s	29ms/step			
1/1					
1/1	0s	37ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	38ms/step			
1/1	0s	32ms/step			
1/1	0s	31ms/step			
1/1	0s	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	28ms/step			
1/1	0s	32ms/step			
1/1	0s	50ms/step	-	loss:	0.0353
1/1	0s	35ms/step	-	loss:	0.0343
1/1					
1/1					
1/1					
1/1					
1/1	0s	37ms/step			
1/1	0s	37ms/step			
1/1	0s	41ms/step			
1/1	0s	40ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1	05	34ms/step			
1/1 ———————————————————————————————————	05	33ms/step			
1/1					
1/1					
1/1				1000	0 0022
1/1	05	50ms/step	-	1055:	0.0023
1/1	05	32ms/step	-	1055.	0.0020
1/1	05	331115/Step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	96	34mc/stan			
1/1					
1/1	05	34ms/sten			
1/1					
1/1	05	35ms/sten			
· -					

```
1/1 -
               Os 33ms/step
                   - 0s 29ms/step
1/1 ---
                   - 0s 30ms/step
1/1 -
                    - 0s 33ms/step
                    - 0s 35ms/step
1/1 -
1/1 -----
                  --- 0s 41ms/step
                   - 0s 49ms/step
1/1 -
1/1 -
                   - 0s 38ms/step
           0s 38ms/step - loss: 0.0029
               Os 49ms/step - loss: 0.0028
1/1 -
Epoch: 113/149 | Loss: 0.0028 | Episodes: 512 | Win count: 5 | Win rate: 0.044 | tim
e: 14.21 minutes
                   — 0s 36ms/step
1/1 -----
1/1 ———— 0s 36ms/step
                   -- 0s 36ms/step
1/1 ----
                    0s 34ms/step
1/1 -----
1/1 -
                   - 0s 37ms/step
1/1 -----
                  —— 0s 30ms/step
                   - 0s 43ms/step
1/1 -
1/1 -
                   - 0s 35ms/step
                  —— 0s 35ms/step
1/1 -
                    - 0s 34ms/step
1/1 ———— 0s 31ms/step
                    - 0s 35ms/step
1/1 -
                   - 0s 36ms/step
1/1 -
1/1 ———— 0s 32ms/step
                   - 0s 32ms/step
                    - 0s 37ms/step
1/1 -
1/1 -----
                    - 0s 40ms/step
1/1 0s 35ms/step
                    - 0s 39ms/step
1/1 -
                   — 0s 36ms/step
                    - 0s 38ms/step - loss: 0.0271
                    - 0s 34ms/step - loss: 0.0264
1/1 -
1/1 -----
               Os 39ms/step
1/1 -
                   - 0s 28ms/step
1/1 -
                   - 0s 33ms/step
1/1 0s 35ms/step
                   - 0s 48ms/step
1/1 -
                    - 0s 32ms/step
1/1 -
                    - 0s 38ms/step
1/1 ----
1/1 0s 37ms/step
                    - 0s 28ms/step
1/1 -
                   — 0s 29ms/step
                    - 0s 31ms/step
                    - 0s 35ms/step
1/1 -
1/1 ---
                  Os 29ms/step
1/1 -
                   - 0s 33ms/step
                    - 0s 43ms/step
1/1 -
                 Os 30ms/step
1/1 -
                    - 0s 34ms/step
1/1
                    - 0s 29ms/step
                    - 0s 34ms/step
1/1 -
           Os 29ms/step
1/1 -
       Os 33ms/step - loss: 0.0046
1/1 -
1/1 ——— 0s 39ms/step - loss: 0.0049
```

1/1					
1/1					
1/1	0s	50ms/step			
1/1					
1/1	0s	33ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	38ms/step			
1/1					
1/1	0s	43ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	37ms/step			
1/1					
1/1	0s	43ms/step	-	loss:	0.0017
1/1			-	loss:	0.0018
1/1					
1/1					
1/1					
1/1					
1/1	0s	32ms/step			
1/1					
1/1	0s	36ms/step			
1/1					
1/1					
1/1 ———————————————————————————————————					
1/1					
1/1					
1/1					
1/1					
1/1	05	27ms/step			
1/1					
1/1					
1/1					
1/1					
1/1			_	loss:	0.0054
1/1					
1/1	0s	32ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1	0s	35ms/step			
1/1	0s	46ms/step			
1/1	0s	32ms/step			
1/1	0s	31ms/step			
1/1	0s	28ms/step			

```
1/1 -
                Os 33ms/step
                    - 0s 31ms/step
                    - 0s 31ms/step
1/1 -
1/1 -
                     - 0s 30ms/step
                     - 0s 27ms/step
1/1 -
                    - 0s 31ms/step
1/1 ----
1/1 -
                     - 0s 46ms/step
                     - 0s 33ms/step
                     - 0s 42ms/step - loss: 0.0019
                    – 0s 34ms/step - loss: 0.0019
1/1 -
                Os 31ms/step
1/1 -
1/1 -----
                     - 0s 30ms/step
                    - 0s 38ms/step
1/1 -
                     - 0s 37ms/step
1/1 -
                    - 0s 51ms/step
1/1 -
                     0s 33ms/step
1/1 -
1/1 -
                     - 0s 30ms/step
                   Os 32ms/step
1/1 ---
                     - 0s 41ms/step
1/1 -
1/1 -
                    - 0s 30ms/step
                    - 0s 35ms/step
1/1 -
                     - 0s 32ms/step
1/1 -----
                  —— 0s 35ms/step
                     - 0s 31ms/step
1/1 -
                    - 0s 28ms/step
1/1 -
           0s 33ms/step
                    - 0s 31ms/step
                     - 0s 29ms/step
1/1 -
1/1 ———— 0s 34ms/step
1/1 ——— 0s 31ms/step
                     - 0s 58ms/step - loss: 0.0038
1/1 -
1/1 — 0s 30ms/step - 1033. 0.0030
1/1 — 0s 40ms/step - 10ss: 0.0037
Epoch: 114/149 | Loss: 0.0037 | Episodes: 512 | Win count: 5 | Win rate: 0.043 | tim
e: 14.36 minutes
                    - 0s 29ms/step
1/1 -
1/1 -
                 Os 33ms/step
1/1 -
                  --- 0s 30ms/step
1/1 ...... 0s 43ms/step
                    - 0s 36ms/step
1/1 -
                     - 0s 30ms/step
1/1 -
                    - 0s 46ms/step
1/1 -
1/1 0s 36ms/step
                     - 0s 54ms/step
1/1 -
                    — 0s 36ms/step
                     - 0s 35ms/step
                     - 0s 32ms/step
1/1 -
1/1 -
                  Os 31ms/step
1/1 -
                    - 0s 33ms/step
                     - 0s 33ms/step
1/1 -
                Os 41ms/step
1/1 -
                     - 0s 30ms/step
    Os 27ms/step
1/1 -
                     - 0s 43ms/step
1/1 -
              Os 28ms/step
1/1 -
       Os 41ms/step - loss: 0.0299
1/1 -
            Os 37ms/step - loss: 0.0292
```

1/1					
1/1					
1/1	0s	29ms/step			
1/1					
1/1	0s	30ms/step			
1/1					
1/1	0s	35ms/step			
1/1	0s	35ms/step			
1/1	0s	33ms/step			
1/1	0s	28ms/step			
1/1	0s	42ms/step			
1/1	0s	36ms/step			
1/1					
1/1	0s	28ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	95	43ms/step			
1/1			_	loss	0 0022
1/1	95	46ms/sten	_	loss:	0.0022
1/1				1033.	0.0023
1/1					
1/1					
1/1					
1/1					
1/1	OS Os	39ms/step			
1/1					
1/1	05	23ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	32ms/step			
1/1					
1/1					
1/1					
1/1					
1/1				10001	0 0072
1/1	05	35ms/step	-	1055.	0.00/3
1/1	05	36ms/step	-	1088:	0.0067
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	37ms/step			
1/1	0s	34ms/step			
1/1					
1/1					
1/1	0s	35ms/step			
1/1	0s	44ms/step			

```
1/1 -
               Os 31ms/step
                    - 0s 32ms/step
1/1 ---
                   - 0s 34ms/step
                    - 0s 34ms/step
1/1 -
                    - 0s 36ms/step
1/1 -
1/1 -----
                  —— 0s 40ms/step
1/1 -
                    - 0s 31ms/step
                   - 0s 32ms/step
           0s 36ms/step - loss: 0.0013
               Os 33ms/step - loss: 0.0014
1/1 -
Epoch: 115/149 | Loss: 0.0014 | Episodes: 512 | Win count: 5 | Win rate: 0.043 | tim
e: 14.47 minutes
                   — 0s 32ms/step
1/1 -----
1/1 ——— 0s 33ms/step
                   -- 0s 45ms/step
1/1 ----
                    - 0s 33ms/step
1/1 -----
1/1 -
                    - 0s 35ms/step
1/1 -----
                  — 0s 31ms/step
                    - 0s 40ms/step
1/1 -
1/1 -
                   - 0s 45ms/step
                  — 0s 37ms/step
1/1 -
                    - 0s 33ms/step
1/1 ———— 0s 31ms/step
                    - 0s 39ms/step
1/1 -
                   - 0s 43ms/step
1/1 -
1/1 ———— 0s 31ms/step
                   - 0s 35ms/step
                    - 0s 33ms/step
1/1 -
1/1 -----
                    - 0s 69ms/step
1/1 Os 43ms/step
                    - 0s 28ms/step
1/1 -
                   — 0s 30ms/step
                    - 0s 46ms/step - loss: 0.0014
                    - 0s 39ms/step - loss: 0.0014
1/1 -
1/1 -----
               Os 33ms/step
1/1 -
                    - 0s 32ms/step
1/1 -
                   - 0s 31ms/step
1/1 0s 29ms/step
                    - 0s 34ms/step
1/1 -
                    - 0s 35ms/step
1/1 -
                    - 0s 35ms/step
1/1 ----
1/1 0s 31ms/step
                    - 0s 29ms/step
1/1 -
                   — 0s 32ms/step
                    - 0s 35ms/step
                    - 0s 51ms/step
1/1 -
1/1 ---
                  — 0s 40ms/step
1/1 -
                    - 0s 36ms/step
                    - 0s 29ms/step
1/1 -
                 --- 0s 29ms/step
1/1 -
                    - 0s 32ms/step
1/1 ———— 0s 36ms/step
                    - 0s 31ms/step
1/1 -
           Os 35ms/step
1/1 -
       Os 48ms/step - loss: 0.0014
1/1 -
1/1 ——— 0s 57ms/step - loss: 0.0013
```

1/1	0s	32ms/step			
1/1	0s	32ms/step			
1/1	0s	31ms/step			
1/1	0s	33ms/step			
1/1	0s	31ms/step			
1/1	0s	33ms/step			
1/1	0s	35ms/step			
1/1	0s	39ms/step			
1/1	0s	34ms/step	-	loss:	0.0276
1/1	0s	32ms/step	-	loss:	0.0265
1/1	0s	43ms/step			
1/1	05	28ms/step			
1/1	05	4/ms/step			
1/1	05	33ms/step			
1/1	05	29ms/step			
1/1	05	32ms/step			
1/1	05	44ms/step			
	05	34ms/step			
1/1	05	341115/Step			
1/1	05	38ms/step			
1/1	 OS Os	35ms/step			
1/1	 OS Os	35ms/step			
1/1	05	28ms/step			
			_	loss:	0.0029
1/1	05	36ms/step	_	loss:	0.0023
1/1	05	33ms/step		1033.	0.0031
1/1	05	35ms/step			
1/1	05	49ms/step			
1/1	05	40ms/step			
_, <b>-</b> 1/1	0s	37ms/sten			
1/1	0s	35ms/sten			
1/1	0s	31ms/step			
1/1	0s	35ms/sten			
1/1	0s	37ms/step			
1/1	0s	36ms/step			
-		, <b>F</b>			

```
1/1 -
                  Os 45ms/step
                      - 0s 38ms/step
                      - 0s 35ms/step
1/1 -
1/1 -
                      - 0s 48ms/step
                      - 0s 39ms/step
1/1 -
                      - 0s 37ms/step
1/1 ----
1/1 -
                      - 0s 51ms/step
                      - 0s 34ms/step
                      - 0s 60ms/step - loss: 0.0031
                      - 0s 41ms/step - loss: 0.0032
1/1 -
                      - 0s 38ms/step
1/1 -
1/1 -----
                      - 0s 37ms/step
                      - 0s 34ms/step
1/1 -
                      - 0s 32ms/step
1/1 -
1/1 -
                      0s 35ms/step
1/1 -
                      - 0s 38ms/step
1/1 -
                      - 0s 43ms/step
                      - 0s 34ms/step
1/1 ---
                      - 0s 30ms/step
1/1 -
1/1 -
                      - 0s 36ms/step
                      - 0s 30ms/step
1/1 -
                      - 0s 31ms/step
1/1 -----
                      - 0s 34ms/step
                      - 0s 33ms/step
1/1 -
                      - 0s 32ms/step
1/1 -
                      - 0s 38ms/step
                      - 0s 32ms/step
                      - 0s 28ms/step
1/1 -
1/1 -----
                      - 0s 33ms/step
1/1 -----
           Os 31ms/step
                      - 0s 34ms/step - loss: 0.0029
1/1 -
                      — 0s 35ms/step - loss: 0.0028
                      - 0s 31ms/step
                      - 0s 37ms/step
1/1 -
                    — 0s 26ms/step
1/1 -
1/1 -
                      - 0s 29ms/step
1/1 -
                      - 0s 31ms/step
                      0s 32ms/step
                      - 0s 31ms/step
1/1 -
                      - 0s 33ms/step
1/1 -
                      - 0s 36ms/step
1/1 -
1/1 -----
                    — 0s 44ms/step
                      - 0s 42ms/step
1/1 -
                      - 0s 33ms/step
                      - 0s 40ms/step
                      - 0s 35ms/step
1/1 -
1/1 -
                      - 0s 33ms/step
1/1 -
                      - 0s 29ms/step
                      - 0s 32ms/step
1/1 -
                      - 0s 30ms/step
1/1 -
                      - 0s 33ms/step
     0s 30ms/step
1/1 -
         Os 35ms/step - loss: 0.0016
1/1 -
1/1 ——— 0s 35ms/step - loss: 0.0016
Epoch: 116/149 | Loss: 0.0016 | Episodes: 512 | Win count: 5 | Win rate: 0.043 | tim
e: 14.65 minutes
```

1/1	0-	26			
1/1					
1/1	<b>0</b> S	39ms/step			
1/1					
1/1	0s	36ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	37ms/step			
1/1	0s	30ms/step			
1/1	0s	31ms/step			
1/1	0s	33ms/step			
1/1	0s	32ms/step			
1/1	0s	36ms/step			
1/1					
1/1					
1/1					
1/1	0s	30ms/step			
1/1			_	loss:	0.0023
1/1	0s	38ms/step	_	loss:	0.0022
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	95	33ms/step			
1/1					
1/1	05	32ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1			_	1000	0 0013
1/1	05	36ms/step	_	1055.	0.0043
1/1	05	36ms/step	_	1055.	0.0041
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	Zoms/step			
1/1	<b>US</b>	33ms/step			
1/1					
1/1 ———————————————————————————————————	US	38ms/step			
1/1	US	33ms/step			

```
1/1 -
                 Os 48ms/step
                     - 0s 34ms/step
                     - 0s 32ms/step
1/1 -
                      - 0s 38ms/step
1/1 -
                     - 0s 33ms/step
1/1 -
                     - 0s 29ms/step
1/1 ----
                     - 0s 41ms/step
1/1 -
                     - 0s 36ms/step
                     - 0s 37ms/step - loss: 0.0046
                     - 0s 36ms/step - loss: 0.0041
1/1 -
                     - 0s 45ms/step
1/1 -
1/1 -----
                     - 0s 31ms/step
                     - 0s 35ms/step
1/1 -
                     - 0s 33ms/step
1/1 -
                     - 0s 45ms/step
1/1 -
                     - 0s 32ms/step
1/1 -
1/1 -
                     - 0s 31ms/step
                    — 0s 36ms/step
1/1 ---
                     - 0s 37ms/step
1/1 -
1/1 -
                     - 0s 38ms/step
                     - 0s 31ms/step
1/1 -
                     - 0s 31ms/step
1/1 -----
                   —— 0s 28ms/step
                     - 0s 38ms/step
1/1 -
                     - 0s 32ms/step
1/1 -
                Os 40ms/step
                     - 0s 34ms/step
                     - 0s 36ms/step
1/1 -
1/1 -----
                     - 0s 36ms/step
1/1 0s 32ms/step
                     - 0s 40ms/step - loss: 0.0026
1/1 -
1/1 ———— 0s 40ms/step - loss: 0.0026
Epoch: 117/149 | Loss: 0.0026 | Episodes: 512 | Win count: 5 | Win rate: 0.042 | tim
e: 14.76 minutes
                     - 0s 36ms/step
1/1 -
1/1 -
                   —— 0s 33ms/step
1/1 -
                   — 0s 30ms/step
1/1 0s 36ms/step
                     - 0s 28ms/step
1/1 -
                     - 0s 31ms/step
1/1 -
                     - 0s 29ms/step
1/1 -
1/1 0s 39ms/step
                     - 0s 40ms/step
1/1 -
                     — 0s 28ms/step
                     - 0s 36ms/step
                     - 0s 36ms/step
1/1 -
1/1 -
                   Os 32ms/step
1/1 -
                     - 0s 33ms/step
                     - 0s 31ms/step
1/1 -
                   —— 0s 31ms/step
1/1 -
                     - 0s 36ms/step
1/1 -
                     - 0s 32ms/step
                     - 0s 42ms/step
1/1 -
                Os 53ms/step
1/1 -
                     - 0s 52ms/step - loss: 0.0022
1/1 -
            0s 35ms/step - loss: 0.0022
```

4.44	•	40 / 1			
1/1 ———————————————————————————————————	05	40ms/step			
1/1	0s	39ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	32ms/step			
1/1					
1/1	0s	37ms/step			
1/1					
1/1	0s	33ms/step			
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1	0s	34ms/step			
1/1					
1/1	0s	32ms/step			
1/1			_	loss:	0.0024
1/1					
1/1					
1/1					
1/1					
1/1	0s	34ms/step			
1/1					
1/1	05	33ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	95	34ms/sten			
1/1		31ms/step			
1/1	95				
1/1					
1/1	95	39ms/sten			
1/1					
1/1					
1/1					
1/1	95	46ms/sten			
1/1			_	loss:	0.0027
1/1	95	39ms/sten	_	1055.	0.0027
1/1				1033.	0.0020
1/1					
1/1					
1/1					
1/1					
1/1	05	27ms/step			
1/1					
1/1	05	3/ms/step			
1/1					
1/1	05	26mc/step			
1/1					
1/1					
1/1	<b>U</b> S	Joins/Step			

```
1/1 -
                Os 37ms/step
                    - 0s 28ms/step
                    - 0s 32ms/step
1/1 ---
1/1 -
                     - 0s 39ms/step
                     - 0s 38ms/step
1/1 -
                  Os 35ms/step
1/1 -----
1/1 -
                    - 0s 33ms/step
                    — 0s 31ms/step
            0s 44ms/step - loss: 0.0034
               ---- 0s 36ms/step - loss: 0.0031
1/1 -
Epoch: 118/149 | Loss: 0.0031 | Episodes: 512 | Win count: 5 | Win rate: 0.042 | tim
e: 14.87 minutes
                   — 0s 33ms/step
1/1 -----
     0s 33ms/step
1/1 -
                    - 0s 31ms/step
1/1 ---
                     0s 37ms/step
1/1 -
1/1 -----
                    - 0s 34ms/step
1/1 -----
                   — 0s 32ms/step
                    - 0s 31ms/step
1/1 -
1/1 -
                    - 0s 34ms/step
                   Os 32ms/step
1/1 -
                    - 0s 41ms/step
1/1 -----
                  —— 0s 62ms/step
                    - 0s 37ms/step
1/1 -
                    - 0s 38ms/step
1/1 -
1/1 ———— 0s 46ms/step
                    - 0s 38ms/step
                     - 0s 31ms/step
1/1 -
1/1 -----
                    - 0s 38ms/step
1/1 Os 40ms/step
                    - 0s 31ms/step
1/1 -
                    — 0s 30ms/step
                     - 0s 55ms/step - loss: 0.0027
                     - 0s 34ms/step - loss: 0.0026
1/1 -
1/1 -----
                  Os 30ms/step
1/1 -
                    - 0s 28ms/step
1/1 -
                    - 0s 34ms/step
                    - 0s 31ms/step
                    - 0s 38ms/step
1/1 -
                     - 0s 39ms/step
1/1 -
                    - 0s 32ms/step
1/1 -
1/1 Os 31ms/step
                     - 0s 38ms/step
1/1 -
                    — 0s 33ms/step
                     - 0s 36ms/step
                     - 0s 33ms/step
1/1 -
1/1 -
                   — 0s 33ms/step
1/1 -
                    - 0s 35ms/step
                     - 0s 39ms/step
1/1 -
                  —— 0s 34ms/step
1/1 -
                    - 0s 38ms/step
1/1 -
                     - 0s 33ms/step
                    - 0s 39ms/step
1/1 -
            Os 34ms/step
1/1 -
       Os 41ms/step - loss: 0.0028
1/1 -
1/1 ——— 0s 39ms/step - loss: 0.0028
```

1/1					
1/1					
1/1	0s	29ms/step			
1/1					
1/1	0s	34ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	31ms/step			
1/1					
1/1 ———————————————————————————————————	05	35ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	331115/Step			
1/1			_	1000	0 0021
1/1	OS OS	42113/3CEP	_	1055.	0.0021
1/1				1033.	0.0022
1/1					
1/1					
1/1					
1/1					
1/1	. 0s	44ms/step			
1/1					
1/1	0s	32ms/step			
1/1					
1/1					
1/1					
1/1	0s	35ms/step			
1/1					
1/1	0s	29ms/step			
1/1	0s	31ms/step			
1/1	0s	46ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	48ms/step	-	loss:	0.0025
1/1	0s	35ms/step	-	loss:	0.0024
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1	0s	36ms/step			
1/1					
1/1 ———————————————————————————————————					
1/1	US	36MS/STep			
1/1	<b>U</b> S	34ms/step			

```
1/1 -
                  Os 32ms/step
                      - 0s 29ms/step
1/1 -
                      0s 32ms/step
1/1 -
                      - 0s 32ms/step
                      - 0s 31ms/step
1/1 -
                      - 0s 31ms/step
1/1 ----
1/1 -
                      - 0s 32ms/step
                      - 0s 32ms/step
                      - 0s 39ms/step - loss: 0.0019
                      – 0s 36ms/step - loss: 0.0018
1/1 -
                      - 0s 40ms/step
1/1 -
1/1 -----
                      - 0s 31ms/step
                      - 0s 38ms/step
1/1 -
                      - 0s 41ms/step
1/1 -
1/1 -
                      0s 36ms/step
1/1 -
                      - 0s 30ms/step
1/1 -
                      - 0s 35ms/step
                     - 0s 52ms/step
1/1 ---
                      - 0s 32ms/step
1/1 -
1/1 -
                      - 0s 32ms/step
                      - 0s 30ms/step
1/1 -
                      - 0s 44ms/step
1/1 -----
                      - 0s 44ms/step
                      - 0s 33ms/step
1/1 -
                      - 0s 31ms/step
1/1 -
                      - 0s 38ms/step
                      - 0s 56ms/step
                      - 0s 35ms/step
1/1 -
1/1 -----
                      - 0s 33ms/step
1/1 -----
           Os 42ms/step
                      - 0s 49ms/step - loss: 0.0027
1/1 -
                     — 0s 38ms/step - loss: 0.0028
                      - 0s 36ms/step
                      - 0s 26ms/step
1/1 -
                    — 0s 36ms/step
1/1 -
1/1 -
                      - 0s 30ms/step
1/1 -
                      - 0s 31ms/step
                      - 0s 31ms/step
                      - 0s 35ms/step
1/1 -
                      - 0s 29ms/step
1/1 -
                      - 0s 47ms/step
1/1 -
1/1 -----
                    Os 33ms/step
                      - 0s 35ms/step
1/1 -
                      - 0s 36ms/step
                      - 0s 50ms/step
                      - 0s 34ms/step
1/1 -
1/1 -
                      - 0s 33ms/step
1/1 -
                      - 0s 35ms/step
                      - 0s 26ms/step
1/1 -
                      - 0s 38ms/step
1/1 -
                      - 0s 31ms/step
     Os 47ms/step
1/1 -
         Os 74ms/step - loss: 0.0031
1/1 -
1/1 ——— 0s 41ms/step - loss: 0.0031
Epoch: 119/149 | Loss: 0.0031 | Episodes: 512 | Win count: 5 | Win rate: 0.042 | tim
e: 15.06 minutes
```

4.44		20 / 1			
1/1					
1/1					
1/1	0s	38ms/step			
1/1					
1/1	0s	40ms/step			
1/1					
1/1					
1/1	0s	34ms/step			
1/1	0s	41ms/step			
1/1					
1/1	0s	43ms/step			
1/1	0s	37ms/step			
1/1	0s	34ms/step			
1/1	0s	43ms/step			
1/1	0s	35ms/step			
1/1	0s	35ms/step			
1/1					
1/1					
1/1					
1/1					
1/1			_	loss:	0.0028
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	95	34ms/step			
1/1					
1/1	05	3/ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1			_	1055.	0 0346
1/1	05	40ms/step	_	1033.	0.0340
1/1	05	69ms/step		1033.	0.0552
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	30mc/c+on			
1/1	05	30mc/c+05			
1/1					
1/1					
1/1	05	אורר / ארבי / ארבי / ארבי / ארבי			
±/,±	92	סדווים/ Στεβ			

```
1/1 -
                Os 27ms/step
                    - 0s 38ms/step
                    - 0s 39ms/step
1/1 -
1/1 -
                     - 0s 29ms/step
                     - 0s 38ms/step
1/1 -
                    - 0s 28ms/step
1/1 ----
1/1 -
                     - 0s 30ms/step
                     - 0s 35ms/step
                     - 0s 39ms/step - loss: 0.0032
                    – 0s 37ms/step - loss: 0.0032
1/1 -
                Os 38ms/step
1/1 -
1/1 -----
                     - 0s 48ms/step
                    - 0s 33ms/step
1/1 -
                     - 0s 30ms/step
1/1 -
                    - 0s 38ms/step
1/1 -
                     0s 42ms/step
1/1 -
1/1 -
                     - 0s 42ms/step
                   Os 59ms/step
1/1 ---
                     - 0s 30ms/step
1/1 -
1/1 -
                    - 0s 29ms/step
                    - 0s 31ms/step
1/1 -
                     - 0s 30ms/step
1/1 -----
                  —— 0s 35ms/step
                     - 0s 30ms/step
1/1 -
                    - 0s 35ms/step
1/1 -
           0s 33ms/step
                    - 0s 31ms/step
                     - 0s 37ms/step
1/1 -
1/1 ———— 0s 36ms/step
1/1 — 0s 33ms/step
                     - 0s 35ms/step - loss: 0.0019
1/1 -
1/1 — 0s 39ms/step - 1033. 0.0017
1/1 — 0s 39ms/step - 10ss: 0.0021
Epoch: 120/149 | Loss: 0.0021 | Episodes: 512 | Win count: 5 | Win rate: 0.041 | tim
e: 15.17 minutes
                    - 0s 34ms/step
1/1 -
1/1 -
                  Os 37ms/step
1/1 -
                  —— 0s 37ms/step
1/1 ...... 0s 32ms/step
                    - 0s 44ms/step
1/1 -
                     - 0s 33ms/step
1/1 -
                    - 0s 32ms/step
1/1 -
1/1 0s 29ms/step
                     - 0s 45ms/step
1/1 -
                    — 0s 30ms/step
                     - 0s 30ms/step
                     - 0s 34ms/step
1/1 -
1/1 -
                  —— 0s 39ms/step
1/1 -
                    - 0s 41ms/step
                     - 0s 29ms/step
1/1 -
                Os 53ms/step
1/1 -
                     - 0s 36ms/step
    Os 36ms/step
1/1 -
                     - 0s 38ms/step
1/1 -
              Os 35ms/step
1/1 -
       Os 36ms/step - loss: 0.0022
1/1 -
            0s 56ms/step - loss: 0.0021
```

1/1	0s	37ms/step			
1/1					
1/1	0s	57ms/step			
1/1					
1/1					
1/1	0s	37ms/step			
1/1	0s	34ms/step			
1/1					
1/1					
1/1	0s	36ms/step			
1/1					
1/1	0s	35ms/step			
1/1					
1/1	05	35ms/step			
1/1					
1/1					
1/1					
1/1	05	39ms/step			
1/1					
1/1	05	22ms/step			
1/1			_	1000	0 0024
1/1					
1/1			_	1033.	0.0020
1/1					
1/1					
1/1	05	30ms/step			
1/1					
1/1	05	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1 ———————————————————————————————————	05	33ms/step			
		•			
1/1	05	29ms/step			
1/1					
1/1 ———————————————————————————————————	05	34ms/step			
1/1					
1/1					
1/1 ———————————————————————————————————	05	40ms/step			
					0 0000
1/1	05	34ms/step	-	Toss:	0.0028
1/1 ———————————————————————————————————			-	Toss:	0.0028
1/1					
1/1					
1/1					
1/1	05	36ms/step			
1/1					
1/1	0s	33ms/step			
1/1					
1/1	0s	35ms/step			
1/1					
1/1					
1/1	ØS	32ms/step			

```
1/1 -
                    —— 0s 39ms/step
                      - 0s 36ms/step
                      - 0s 37ms/step
1/1 -
1/1 -
                       - 0s 50ms/step
                      - 0s 37ms/step
1/1 -
                      - 0s 39ms/step
1/1 -
                      - 0s 54ms/step
1/1 -
                      - 0s 33ms/step
                      - 0s 38ms/step - loss: 0.0039
                      – 0s 32ms/step - loss: 0.0040
1/1 -
                      - 0s 30ms/step
1/1 -
1/1 -----
                      - 0s 36ms/step
                      - 0s 33ms/step
1/1 -
                      - 0s 30ms/step
1/1 -
1/1 -
                      - 0s 31ms/step
                      - 0s 33ms/step
1/1 -
1/1 -
                      - 0s 47ms/step
                      - 0s 42ms/step
1/1 ---
                      - 0s 37ms/step
1/1 -
1/1 -
                      - 0s 28ms/step
                      - 0s 42ms/step
1/1 -
                      - 0s 34ms/step
1/1 -----
                      - 0s 33ms/step
                      - 0s 32ms/step
1/1 -
                      - 0s 47ms/step
1/1 -
                 Os 33ms/step
                      - 0s 40ms/step
                      - 0s 40ms/step
1/1 -
1/1 -----
                      - 0s 38ms/step
1/1 -----
                    Os 56ms/step
                      - 0s 52ms/step - loss: 0.0031
1/1 -
                      — 0s 60ms/step - loss: 0.0030
                      - 0s 49ms/step
1/1 -
                       - 0s 66ms/step
                     — 0s 43ms/step
1/1 -
1/1 -
                      - 0s 29ms/step
1/1 -
                      - 0s 40ms/step
                      0s 30ms/step
                      - 0s 27ms/step
1/1 -
                      - 0s 28ms/step
1/1 -
                      - 0s 35ms/step
1/1 -
1/1 -----
                    Os 29ms/step
                      - 0s 40ms/step
1/1 -
                      0s 33ms/step
                      - 0s 34ms/step
                      - 0s 30ms/step
1/1 -
1/1 -
                      - 0s 31ms/step
1/1 -
                      - 0s 34ms/step
                      - 0s 38ms/step
1/1 -
                      - 0s 36ms/step
1/1 -
                      - 0s 35ms/step
     Os 28ms/step
1/1 -
         Os 37ms/step - loss: 0.0031
1/1 -
1/1 ——— 0s 38ms/step - loss: 0.0030
Epoch: 121/149 | Loss: 0.0030 | Episodes: 512 | Win count: 5 | Win rate: 0.041 | tim
e: 15.33 minutes
```

1/1	0s	36ms/step
1/1		
1/1		
1/1	05	29ms/sten
1/1		
1/1	95	37ms/step
1/1		
1/1		
1/1		
1/1		
1/1		
1/1		
1/1		
1/1	05	F2ms/step
1/1		
1/1	05	24ms/step
1/1		
1/1		
1/1		
1/1	05	10ms/step
		42ms/step - loss: 0.0034
		36ms/step - loss: 0.0031
1/1		
1/1		
1/1		
1/1		
1/1		
1/1		
1/1		
1/1		
1/1	0s	34ms/step
1/1		
1/1		
1/1		
1/1		
1/1		
1/1	0s	37ms/step
1/1	0s	33ms/step
1/1	0s	28ms/step
1/1		
1/1		
1/1		
1/1	0s	36ms/step - loss: 0.0029
		45ms/step - loss: 0.0028
1/1	0s	30ms/step
1/1		
1/1		
1/1		
1/1		
1/1	US	33MS/STEP
1/1 ———————————————————————————————————	US	42mS/STep
1/1	US Ca	31ms/step
1/1		
1/1		
1/1	05	33ms/step
<u> </u>	<b>U</b> 3	22113/ 2 CEh

```
1/1 -
                  —— 0s 38ms/step
                      - 0s 42ms/step
                      - 0s 49ms/step
1/1 -
1/1 -
                      - 0s 50ms/step
                      - 0s 36ms/step
1/1 -
                      - 0s 34ms/step
1/1 ----
1/1 -
                      - 0s 33ms/step
                      - 0s 41ms/step
                      - 0s 34ms/step - loss: 0.0026
                      – 0s 33ms/step - loss: 0.0025
1/1 -
                      - 0s 35ms/step
1/1 -
1/1 -----
                      - 0s 36ms/step
                      - 0s 37ms/step
1/1 -
                      - 0s 35ms/step
1/1 -
1/1 -
                      0s 29ms/step
1/1 -
                      - 0s 29ms/step
1/1 -
                      - 0s 36ms/step
                      - 0s 36ms/step
1/1 ---
                      - 0s 33ms/step
1/1 -
1/1 -
                      - 0s 52ms/step
                      - 0s 35ms/step
                      - 0s 31ms/step
1/1 -
1/1 -----
                      - 0s 34ms/step
                      - 0s 27ms/step
1/1 -
                      - 0s 35ms/step
1/1 -
                 Os 34ms/step
                      - 0s 32ms/step
                      - 0s 31ms/step
1/1 -
1/1 -----
                      - 0s 39ms/step
1/1 -----
           0s 33ms/step
                      - 0s 39ms/step - loss: 0.0027
1/1 -
                      - 0s 38ms/step - loss: 0.0026
                      - 0s 33ms/step
                      - 0s 31ms/step
1/1 -
                     — 0s 32ms/step
1/1 -
1/1 -
                      - 0s 28ms/step
1/1 -
                      - 0s 30ms/step
                      0s 52ms/step
                      - 0s 52ms/step
1/1 -
                      - 0s 33ms/step
1/1 -
                      - 0s 36ms/step
1/1 -
1/1 -----
                    --- 0s 40ms/step
                      - 0s 33ms/step
1/1 -
                      - 0s 36ms/step
                      - 0s 31ms/step
                      - 0s 36ms/step
1/1 -
1/1 -
                      - 0s 36ms/step
1/1 -
                      - 0s 42ms/step
                      - 0s 38ms/step
1/1 -
                      - 0s 36ms/step
1/1 -
                      - 0s 32ms/step
1/1 ---- 0s 41ms/step
         Os 38ms/step - loss: 0.0021
1/1 -
1/1 ——— 0s 44ms/step - loss: 0.0021
Epoch: 122/149 | Loss: 0.0021 | Episodes: 512 | Win count: 5 | Win rate: 0.041 | tim
e: 15.47 minutes
```

	_				
1/1	0s	31ms/step			
1/1					
1/1	0s	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	37ms/step			
1/1	0s	33ms/step			
1/1	0s	31ms/step			
1/1	0s	49ms/step			
1/1	0s	30ms/step			
1/1	0s	32ms/step			
1/1	0s	34ms/step			
1/1	0s	44ms/step			
1/1					
1/1	0s	34ms/step			
1/1					
1/1	0s	45ms/step			
1/1			_	loss:	0.0035
1/1					
1/1					0.005
1/1					
1/1					
1/1	as	31ms/step			
1/1					
1/1	05	35ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	43ms/step			
1/1 ———————————————————————————————————	05	40ms/step			
1/1					
1/1	05	38ms/step			
1/1					
1/1					
1/1 ———————————————————————————————————	05	33ms/step			
					0 0000
1/1	05	41ms/step	-	Toss:	0.0039
1/1			-	loss:	0.0039
1/1					
1/1					
1/1					
1/1					
1/1	0s	34ms/step			
1/1					
1/1	0s	33ms/step			
1/1					
1/1	0s	31ms/step			
1/1					
1/1					
1/1	0s	32ms/step			

1/1	0s	39ms/step			
1/1					
1/1	0s	34ms/step			
1/1	0s	32ms/step			
1/1	0s	50ms/step			
1/1	0s	33ms/step			
1/1					
1/1					
1/1	0s	53ms/step	-	loss:	0.0024
1/1			-	loss:	0.0024
1/1	0s	32ms/step			
1/1	0s	43ms/step			
1/1	0s	29ms/step			
1/1	0s	33ms/step			
1/1					
1/1					
1/1	05	35ms/step			
1/1	95	33ms/sten			
1/1					
1/1	05	12ms/step			
1/1	03	38ms/step			
1/1	03	12ms/step			
1/1	05	421113/3CEP			
1/1					
1/1	05	30ms/step			
1/1	05	34ms/step			
1/1					
1/1	05	31ms/step			
1/1	05	40ms/step			
1/1	0s	34ms/step			
1/1				_	
1/1					
1/1			-	loss:	0.0036
1/1	0s	32ms/step			
1/1	0s	35ms/step			
1/1	0s	27ms/step			
1/1	0s	35ms/step			
1/1	0s	31ms/step			
1/1	0s	41ms/step			
1/1	0s	34ms/step			
1/1	0s	35ms/step			
1/1	0s	39ms/step			
1/1					
1/1	0s	32ms/step			
1/1	0s	36ms/step			
1/1	0s	30ms/step			
1/1	0s	39ms/step			
1/1	0s	31ms/step			
1/1	0s	29ms/step			
1/1	0s	35ms/step			
1/1	0s	30ms/step			
1/1					
1/1	05	35ms/sten			
1/1	95	32ms/sten	_	1055.	0.0037
1/1	95	44ms/sten	_	1055.	0.0037
1/1			-	1033.	5.0050
1/1					
±/ ±	03	, 21113/3teb			

1/1	95	37ms/sten			
1/1					
1/1					
1/1	95	36ms/step			
1/1					
1/1	03	33ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	05	34ms/step			
1/1					
1/1	0s	33ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	36ms/step	-	loss:	0.0304
1/1	0s	33ms/step			
1/1	0s	34ms/step			
1/1	0s	27ms/step			
1/1	0s	50ms/step			
1/1					
1/1					
1/1					
1/1	05	38ms/step			
1/1					
1/1	95	38ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1 ———————————————————————————————————	05	42ms/step			
1/1					
1/1					
				-	
1/1					
1/1			-	loss:	0.0023
1/1	0s	34ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	29ms/step			
1/1	0s	35ms/step			
1/1	0s	35ms/step			
1/1	0s	30ms/step			
1/1	0s	32ms/step			
1/1	0s	37ms/step			
-		-,p			

```
1/1 -
              Os 36ms/step
                   - 0s 50ms/step
1/1 ---
                  -- 0s 26ms/step
1/1 -
                   - 0s 37ms/step
                   - 0s 37ms/step
1/1 -
1/1 Os 34ms/step
       0s 35ms/step - loss: 0.0027
1/1 -
1/1 — 0s 38ms/step - loss: 0.0026
Epoch: 123/149 | Loss: 0.0026 | Episodes: 512 | Win count: 5 | Win rate: 0.040 | tim
e: 15.69 minutes
1/1 -
                   - 0s 43ms/step
1/1 -----
                 —— 0s 44ms/step
                   - 0s 46ms/step
1/1 -----
1/1
                   - 0s 32ms/step
                   - 0s 31ms/step
1/1 -
                   - 0s 35ms/step
1/1 -
1/1 -
                   - 0s 34ms/step
1/1 -----
                 Os 33ms/step
                   - 0s 34ms/step
1/1 -
1/1 -
                   - 0s 40ms/step
                 —— 0s 32ms/step
1/1 -
                   - 0s 37ms/step
1/1 ———— 0s 43ms/step
                   - 0s 40ms/step
1/1 -
                   - 0s 40ms/step
1/1 -
1/1 ---- 0s 38ms/step
1/1 -
                   - 0s 56ms/step
                   - 0s 46ms/step
1/1 -
1/1 -----
                   - 0s 33ms/step
1/1 0s 37ms/step
                   - 0s 40ms/step - loss: 0.0028
1/1 -
                 Os 44ms/step - loss: 0.0026
                   - 0s 29ms/step
                   - 0s 29ms/step
1/1 -
1/1 -----
               Os 39ms/step
1/1 -
                   - 0s 31ms/step
1/1 -
                  — 0s 32ms/step
1/1 0s 33ms/step
                   - 0s 32ms/step
1/1 -
                   - 0s 48ms/step
1/1 -
                   - 0s 37ms/step
1/1 -
1/1 0s 33ms/step
                   - 0s 30ms/step
1/1 -
                  — 0s 42ms/step
                   - 0s 33ms/step
                   - 0s 33ms/step
1/1 -
1/1 ---
                 —— 0s 37ms/step
1/1 -
                   - 0s 40ms/step
                   - 0s 33ms/step
1/1 -
               Os 34ms/step
                   - 0s 34ms/step
1/1 -
1/1 — 0s 29ms/step
                —— 0s 38ms/step - loss: 0.0031
1/1 -
           Os 38ms/step - loss: 0.0029
1/1 -
                   - 0s 27ms/step
1/1 -
           Os 37ms/step
```

1/1	۵c	70ms/stan			
1/1					
1/1					
1/1					
1/1	<b>0</b> S	42ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	39ms/step			
1/1	0s	28ms/step			
1/1					
1/1	0s	33ms/step			
1/1					
1/1					
1/1					
1/1					
1/1				1000	0 0010
1/1					
			-	1088:	0.0017
1/1	05	3/ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	35ms/step			
1/1					
1/1	0s	32ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1			-	loss:	0.0031
1/1	0s	38ms/step			
1/1					
1/1	0s	33ms/step			
1/1	0s	35ms/step			
1/1	0s	39ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1	0s	39ms/sten			
1/1					
1/1					
1/1	0s	28ms/sten			
, –		, эсер			

1/1	0s	39ms/step			
1/1					
1/1					
1/1	95	30ms/sten			
1/1					
1/1	95	37ms/step			
1/1			_	loss:	0.0021
1/1					
1/1					
1/1					
1/1					
1/1	0s	33ms/step			
1/1					
1/1	0s	38ms/step			
1/1					
1/1	0s	36ms/step			
1/1	0s	32ms/step			
1/1	0s	36ms/step			
1/1	0s	36ms/step			
1/1	0s	27ms/step			
1/1	0s	31ms/step			
1/1	0s	37ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	35ms/step	-	loss:	0.0037
1/1			-	loss:	0.0036
1/1					
1/1					
1/1					
1/1					
1/1 ———————————————————————————————————					
1/1	05	39ms/step			
1/1					
1/1	05	35ms/step			
1/1					
1/1					
1/1					
1/1	0s	40ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	32ms/step			
	_	56ms/sten	_		
1/1					
1/1	0s	40ms/step	-	loss:	0.0289
1/1 ———————————————————————————————————	0s 0s	40ms/step 31ms/step	-	loss:	0.0289
1/1 ———————————————————————————————————	0s 0s 0s	40ms/step 31ms/step 32ms/step	-	loss:	0.0289
1/1 ———————————————————————————————————	0s 0s 0s 0s	40ms/step 31ms/step 32ms/step 35ms/step	-	loss:	0.0289
1/1 ———————————————————————————————————	0s 0s 0s 0s	40ms/step 31ms/step 32ms/step 35ms/step	-	loss:	0.0289

```
1/1 -
                  Os 32ms/step
                      - 0s 31ms/step
                      - 0s 29ms/step
1/1 -
1/1 -
                       - 0s 47ms/step
                       - 0s 38ms/step
1/1 -
                      - 0s 36ms/step
1/1 ----
1/1 -
                      - 0s 34ms/step
                       - 0s 32ms/step
                       - 0s 45ms/step
1/1 -
                      - 0s 32ms/step
                       - 0s 29ms/step
1/1 -
1/1 -----
                       - 0s 39ms/step
                      - 0s 39ms/step
1/1 -
                      - 0s 35ms/step
1/1 -
                      - 0s 31ms/step
1/1 -
                       - 0s 35ms/step
1/1 -
                      - 0s 53ms/step - loss: 0.0035
1/1 -
1/1 ——— 0s 34ms/step - loss: 0.0035
Epoch: 124/149 | Loss: 0.0035 | Episodes: 512 | Win count: 5 | Win rate: 0.040 | tim
e: 15.91 minutes
1/1
                      - 0s 33ms/step
1/1 -
                      - 0s 46ms/step
1/1 -----
                    —— 0s 39ms/step
                      - 0s 55ms/step
1/1 -
                      - 0s 35ms/step
1/1 -
                  Os 51ms/step
                      - 0s 38ms/step
                       - 0s 38ms/step
1/1 -
1/1 -----
                      - 0s 35ms/step
                    — 0s 36ms/step
1/1 -----
                      - 0s 46ms/step
1/1 -
                      — 0s 34ms/step
                       - 0s 36ms/step
                       - 0s 34ms/step
1/1 -
                     — 0s 38ms/step
1/1 -
1/1 -
                      - 0s 28ms/step
1/1 -
                      - 0s 31ms/step
                      0s 36ms/step
                      - 0s 39ms/step
1/1 -
                       - 0s 42ms/step
1/1 -
                      - 0s 48ms/step - loss: 0.0032
1/1 -
1/1 -----
                    — 0s 42ms/step - loss: 0.0029
                       - 0s 37ms/step
1/1 -
                      - 0s 48ms/step
                       - 0s 41ms/step
                       - 0s 33ms/step
1/1 -
1/1 -
                       - 0s 40ms/step
1/1 -
                      - 0s 50ms/step
                       - 0s 40ms/step
1/1 -
                      - 0s 40ms/step
1/1 -
                       - 0s 40ms/step
1/1 -
                       - 0s 39ms/step
                       - 0s 45ms/step
1/1 -
                   —— 0s 42ms/step
1/1 -
                      - 0s 33ms/step
1/1 -
             0s 35ms/step
```

1 /1	ac	20mc/c+on			
1/1	05	12ms/step			
1/1	05	16ms/step			
				1000	0 0020
			-	1055.	0.0030
1/1	05	35ms/step			
1/1	05	3/ms/step			
1/1	05	46ms/step			
1/1	0s	39ms/step			
1/1	0s	31ms/step			
1/1	 0s	45ms/step			
				_	
			-	loss:	0.0015
1/1	0s	35ms/step			
1/1	0s	28ms/step			
				_	
1/1	 0s	34ms/step	-	loss:	0.0021
1/1	 0s	46ms/step	-	loss:	0.0021
1/1	ØS	33ms/step			

```
1/1 -
                    Os 26ms/step
                      - 0s 36ms/step
                      - 0s 46ms/step
1/1 -
                       - 0s 54ms/step
1/1 -
                       - 0s 54ms/step
1/1 -
                       - 0s 51ms/step
1/1 ----
1/1 -
                       - 0s 37ms/step
                       - 0s 46ms/step
                       - 0s 44ms/step
1/1 -
                       - 0s 44ms/step
                       - 0s 36ms/step
1/1 -
1/1 -----
                       - 0s 32ms/step
                      - 0s 31ms/step
1/1 -
                      - 0s 32ms/step
1/1 -
                      - 0s 48ms/step
1/1 -
                       - 0s 35ms/step
1/1 -
                      - 0s 36ms/step - loss: 0.0325
1/1 -
1/1 ——— 0s 36ms/step - loss: 0.0318
Epoch: 125/149 | Loss: 0.0318 | Episodes: 512 | Win count: 5 | Win rate: 0.040 | tim
e: 16.06 minutes
1/1 -----
                      - 0s 54ms/step
                      - 0s 39ms/step
1/1 -
1/1 -----
                    —— 0s 39ms/step
                      - 0s 30ms/step
1/1 -
                      - 0s 33ms/step
1/1 -
                  ——— 0s 35ms/step
                      - 0s 39ms/step
                       - 0s 32ms/step
1/1 -
1/1 -----
                      - 0s 34ms/step
                    Os 31ms/step
1/1 -----
                      - 0s 32ms/step
1/1 -
                      — 0s 36ms/step
                       - 0s 38ms/step
                       - 0s 36ms/step
1/1 -
                     — 0s 31ms/step
1/1 -
1/1 -
                      - 0s 44ms/step
1/1 -
                      - 0s 32ms/step
                      0s 39ms/step
                      - 0s 39ms/step
1/1 -
                       - 0s 39ms/step
1/1 -
                      - 0s 32ms/step - loss: 0.0031
1/1 -
1/1 -----
                    Os 39ms/step - loss: 0.0029
                       - 0s 60ms/step
1/1 -
                      - 0s 32ms/step
                       - 0s 36ms/step
                       - 0s 41ms/step
1/1 -
1/1 -
                       - 0s 32ms/step
1/1 -
                      - 0s 52ms/step
                       - 0s 32ms/step
1/1 -
                      - 0s 29ms/step
1/1 -
                       - 0s 36ms/step
1/1 -
                       - 0s 29ms/step
                       - 0s 35ms/step
1/1 -
1/1 -
                    --- 0s 34ms/step
                      - 0s 30ms/step
1/1 -
             Os 37ms/step
```

1/1	ac	2Emc/ston			
1 /1	05	331113/Step			
1/1	05	33ms/step			
			-	loss:	0.0031
1/1	0s	31ms/step			
1/1	0s	44ms/step			
1/1	0s	36ms/step			
1/1	 0s	45ms/step			
1/1	0s	35ms/step			
1/1	0s	32ms/step			
1/1	0s	36ms/step			
1/1	<b>0</b> S	35ms/step			
1/1	0s	37ms/step			
			-	loss:	0.0292
1/1	05	11mc/c+on			
		41ms/step			
	0s	43ms/step			
1/1	0s	43ms/step			
-	0s 0s	43ms/step 39ms/step			
1/1	 0s 0s 0s	43ms/step 39ms/step 51ms/step			
1/1 1/1	0s 0s 0s 0s	43ms/step 39ms/step 51ms/step 35ms/step			
1/1 1/1 1/1	0s 0s 0s 0s	43ms/step 39ms/step 51ms/step 35ms/step 36ms/step			
1/1 1/1 1/1 1/1	0s 0s 0s 0s 0s	43ms/step 39ms/step 51ms/step 35ms/step 36ms/step 32ms/step			
1/1 1/1 1/1 1/1 1/1	0s 0s 0s 0s 0s	43ms/step 39ms/step 51ms/step 35ms/step 36ms/step 32ms/step 30ms/step			
1/1 1/1 1/1 1/1 1/1 1/1	0s 0s 0s 0s 0s 0s	43ms/step 39ms/step 51ms/step 35ms/step 36ms/step 32ms/step 30ms/step 34ms/step			
1/1 1/1 1/1 1/1 1/1 1/1 1/1	0s 0s 0s 0s 0s 0s 0s	43ms/step 39ms/step 51ms/step 35ms/step 36ms/step 32ms/step 30ms/step 34ms/step 28ms/step			
1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1	0s 0s 0s 0s 0s 0s 0s	43ms/step 39ms/step 51ms/step 35ms/step 36ms/step 32ms/step 30ms/step 34ms/step 28ms/step 35ms/step			
1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1	0s 0s 0s 0s 0s 0s 0s 0s	43ms/step 39ms/step 51ms/step 35ms/step 36ms/step 32ms/step 30ms/step 34ms/step 28ms/step 35ms/step 49ms/step			
1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s	43ms/step 39ms/step 51ms/step 35ms/step 36ms/step 32ms/step 30ms/step 34ms/step 28ms/step 49ms/step 40ms/step			
1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	43ms/step 39ms/step 51ms/step 35ms/step 36ms/step 32ms/step 30ms/step 34ms/step 28ms/step 49ms/step 40ms/step 45ms/step			
1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	43ms/step 39ms/step 51ms/step 35ms/step 36ms/step 32ms/step 30ms/step 34ms/step 28ms/step 49ms/step 49ms/step 45ms/step 38ms/step			
1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	43ms/step 39ms/step 51ms/step 35ms/step 36ms/step 32ms/step 30ms/step 34ms/step 28ms/step 28ms/step 49ms/step 40ms/step 45ms/step 38ms/step 30ms/step			
1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	43ms/step 39ms/step 51ms/step 35ms/step 36ms/step 32ms/step 30ms/step 34ms/step 28ms/step 28ms/step 49ms/step 49ms/step 45ms/step 38ms/step 30ms/step 26ms/step			
1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	43ms/step 39ms/step 51ms/step 35ms/step 36ms/step 32ms/step 30ms/step 34ms/step 28ms/step 28ms/step 49ms/step 49ms/step 45ms/step 38ms/step 30ms/step 26ms/step 43ms/step			
1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	43ms/step 39ms/step 31ms/step 35ms/step 32ms/step 32ms/step 34ms/step 28ms/step 28ms/step 49ms/step 49ms/step 45ms/step 38ms/step 30ms/step 26ms/step 43ms/step 39ms/step		loss:	0.0027
1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	43ms/step 39ms/step 51ms/step 35ms/step 36ms/step 32ms/step 30ms/step 34ms/step 28ms/step 28ms/step 49ms/step 49ms/step 45ms/step 38ms/step 30ms/step 26ms/step 26ms/step 43ms/step 39ms/step		loss:	0.0027 0.0027
1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	43ms/step 39ms/step 51ms/step 35ms/step 36ms/step 32ms/step 30ms/step 34ms/step 28ms/step 28ms/step 49ms/step 49ms/step 45ms/step 45ms/step 30ms/step 26ms/step 26ms/step 43ms/step 43ms/step 39ms/step 42ms/step 32ms/step		loss:	0.0027 0.0027
1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	43ms/step 39ms/step 51ms/step 35ms/step 36ms/step 32ms/step 34ms/step 28ms/step 28ms/step 49ms/step 49ms/step 45ms/step 38ms/step 30ms/step 26ms/step 43ms/step 43ms/step 43ms/step 27ms/step 27ms/step		loss:	0.0027 0.0027
1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	43ms/step 39ms/step 35ms/step 36ms/step 32ms/step 32ms/step 34ms/step 28ms/step 28ms/step 49ms/step 49ms/step 40ms/step 45ms/step 30ms/step 30ms/step 26ms/step 43ms/step 43ms/step 39ms/step 42ms/step 32ms/step 32ms/step 34ms/step		loss:	0.0027 0.0027
1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	43ms/step 39ms/step 35ms/step 36ms/step 32ms/step 32ms/step 34ms/step 28ms/step 28ms/step 49ms/step 49ms/step 40ms/step 45ms/step 30ms/step 30ms/step 26ms/step 43ms/step 43ms/step 39ms/step 42ms/step 32ms/step 32ms/step 34ms/step		loss:	0.0027 0.0027

```
1/1 -
                     — 0s 35ms/step
                       - 0s 30ms/step
                       - 0s 69ms/step
1/1 -
                       - 0s 38ms/step
1/1 -
                       - 0s 35ms/step
1/1 -
                       - 0s 27ms/step
1/1 ----
1/1 -
                       - 0s 37ms/step
                       - 0s 35ms/step
                       - 0s 30ms/step
1/1 -
                       - 0s 36ms/step
                       - 0s 32ms/step
1/1 -
                       - 0s 33ms/step
1/1 -----
                       - 0s 37ms/step
1/1 -
                       - 0s 26ms/step
1/1 -
                       - 0s 30ms/step
1/1 -
                       - 0s 41ms/step
1/1 -
1/1 -
                       - 0s 40ms/step - loss: 0.0029
                     — 0s 40ms/step - loss: 0.0029
1/1 ---
                       - 0s 35ms/step
1/1 -
1/1 -
                       - 0s 32ms/step
                       - 0s 38ms/step
                       - 0s 37ms/step
1/1 -
1/1 -----
                     — 0s 37ms/step
                       - 0s 49ms/step
1/1 -
                       - 0s 33ms/step
1/1 -
                  Os 37ms/step
                       - 0s 30ms/step
                       - 0s 48ms/step
1/1 -
1/1 -----
                       - 0s 33ms/step
1/1 -----
                     — 0s 31ms/step
                       - 0s 29ms/step
1/1 -
                       - 0s 35ms/step
                       - 0s 40ms/step
                       - 0s 31ms/step
1/1 -
                      — 0s 32ms/step
1/1 -
1/1 -
                       - 0s 34ms/step
1/1 -
                      - 0s 42ms/step
1/1 0s 33ms/step
                      — 0s 37ms/step - loss: 0.0033
1/1 -
                  0s 49ms/step - loss: 0.0033
Epoch: 126/149 | Loss: 0.0033 | Episodes: 512 | Win count: 5 | Win rate: 0.039 | tim
e: 16.22 minutes
1/1 -
                       - 0s 38ms/step
1/1 -
                    --- 0s 38ms/step
                       - 0s 36ms/step
                       - 0s 34ms/step
1/1 -
1/1 ---
                       - 0s 34ms/step
1/1 -
                       - 0s 30ms/step
                       - 0s 43ms/step
1/1 -
                      - 0s 32ms/step
1/1 -
                       - 0s 33ms/step
1/1 -
                       - 0s 30ms/step
                       - 0s 39ms/step
1/1 -
                    —— 0s 38ms/step
1/1 -
                       - 0s 34ms/step
1/1 -
              Os 38ms/step
```

1/1	0s	38ms/step			
1/1					
1/1	0s	34ms/step			
1/1	0s	34ms/step			
1/1	0s	33ms/step			
1/1	0s	32ms/step			
1/1					
1/1	0s	38ms/step	-	loss:	0.0041
1/1					
1/1					
1/1	0s	33ms/step			
1/1					
1/1	0s	30ms/step			
1/1					
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1	0s	36ms/step			
1/1					
1/1	0s	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1 ———————————————————————————————————	05	31ms/step			
				1	0 0051
1/1 ———————————————————————————————————	05	39ms/step	-	1055:	0.0051
1/1			-	1088:	0.0047
1/1					
1/1	00	2/mc/c+on			
1/1					
1/1	0s	37ms/step			
1/1	0s 0s	37ms/step 36ms/step			
1/1 ———————————————————————————————————	0s 0s 0s	37ms/step 36ms/step 37ms/step			
1/1 ———————————————————————————————————	0s 0s 0s 0s	37ms/step 36ms/step 37ms/step 36ms/step			
1/1 ———————————————————————————————————	0s 0s 0s 0s	37ms/step 36ms/step 37ms/step 36ms/step 33ms/step			
1/1 ———————————————————————————————————	0s 0s 0s 0s 0s	37ms/step 36ms/step 37ms/step 36ms/step 33ms/step 40ms/step			
1/1 ———————————————————————————————————	0s 0s 0s 0s 0s	37ms/step 36ms/step 37ms/step 36ms/step 33ms/step 40ms/step 32ms/step			
1/1 ———————————————————————————————————	0s 0s 0s 0s 0s 0s	37ms/step 36ms/step 37ms/step 36ms/step 33ms/step 40ms/step 32ms/step 51ms/step			
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s 0s 0s	37ms/step 36ms/step 37ms/step 36ms/step 33ms/step 40ms/step 51ms/step 40ms/step 34ms/step			
1/1 — — — — — — — — — — — — — — — — — —	0s 0s 0s 0s 0s 0s 0s 0s	37ms/step 36ms/step 37ms/step 36ms/step 33ms/step 40ms/step 51ms/step 40ms/step 34ms/step 37ms/step			
1/1 — 1/1 —	0s 0s 0s 0s 0s 0s 0s 0s 0s	37ms/step 36ms/step 37ms/step 36ms/step 33ms/step 40ms/step 51ms/step 40ms/step 34ms/step 37ms/step 36ms/step			
1/1 — 1/1 —	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	37ms/step 36ms/step 37ms/step 36ms/step 33ms/step 40ms/step 51ms/step 40ms/step 34ms/step 37ms/step 36ms/step 33ms/step			
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	37ms/step 36ms/step 37ms/step 36ms/step 33ms/step 40ms/step 51ms/step 40ms/step 34ms/step 37ms/step 36ms/step 35ms/step 35ms/step			
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	37ms/step 36ms/step 37ms/step 36ms/step 33ms/step 40ms/step 51ms/step 40ms/step 34ms/step 37ms/step 36ms/step 35ms/step 35ms/step 34ms/step			
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	37ms/step 36ms/step 37ms/step 36ms/step 33ms/step 40ms/step 32ms/step 51ms/step 40ms/step 34ms/step 37ms/step 35ms/step 35ms/step 34ms/step 35ms/step 34ms/step 35ms/step			
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	37ms/step 36ms/step 37ms/step 36ms/step 33ms/step 40ms/step 51ms/step 40ms/step 34ms/step 37ms/step 36ms/step 35ms/step 35ms/step 34ms/step 35ms/step 34ms/step 33ms/step 33ms/step			
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s	37ms/step 36ms/step 37ms/step 36ms/step 33ms/step 40ms/step 51ms/step 40ms/step 34ms/step 37ms/step 36ms/step 35ms/step 35ms/step 34ms/step 35ms/step 34ms/step 34ms/step 34ms/step			
1/1	0s	37ms/step 36ms/step 37ms/step 36ms/step 33ms/step 40ms/step 51ms/step 40ms/step 34ms/step 37ms/step 36ms/step 35ms/step 35ms/step 35ms/step 34ms/step 34ms/step 34ms/step 41ms/step		loss:	0.0027
1/1	0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0s 0	37ms/step 36ms/step 37ms/step 36ms/step 33ms/step 40ms/step 51ms/step 40ms/step 34ms/step 34ms/step 35ms/step 35ms/step 35ms/step 34ms/step 34ms/step 34ms/step 41ms/step 41ms/step 48ms/step		loss:	0.0027 0.0025
1/1	0s 0	37ms/step 36ms/step 37ms/step 36ms/step 33ms/step 40ms/step 51ms/step 40ms/step 34ms/step 34ms/step 35ms/step 35ms/step 35ms/step 33ms/step 34ms/step 34ms/step 35ms/step 35ms/step 35ms/step 35ms/step 33ms/step 33ms/step 33ms/step 41ms/step 43ms/step 43ms/step		loss:	0.0027 0.0025
1/1	0s 0	37ms/step 36ms/step 37ms/step 36ms/step 33ms/step 40ms/step 51ms/step 40ms/step 34ms/step 34ms/step 35ms/step 35ms/step 34ms/step 34ms/step 34ms/step 41ms/step 41ms/step 48ms/step 33ms/step		loss:	0.0027 0.0025
1/1	0s 0	37ms/step 36ms/step 37ms/step 36ms/step 33ms/step 40ms/step 51ms/step 40ms/step 34ms/step 37ms/step 36ms/step 35ms/step 35ms/step 35ms/step 34ms/step 34ms/step 34ms/step 34ms/step 35ms/step 34ms/step 35ms/step		loss:	0.0027 0.0025

1/1					
1/1					
1/1	<b>–</b> 0s	31ms/step			
1/1					
1/1	<b>–</b> 0s	32ms/step			
1/1					
1/1	<b>–</b> 0s	32ms/step			
1/1	<b>–</b> 0s	44ms/step			
1/1					
1/1					
1/1					
1/1	<b>-</b> 05	49ms/sten			
1/1					
1/1	<b>-</b> 0s	36ms/step			
1/1					
1/1					
1/1				10001	0 0020
1/1					
			-	1088:	0.0029
1/1	<b>-</b> 0s	52ms/step			
1/1					
1/1	<b>–</b> 0s	47ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	<b>–</b> 0s	36ms/step			
1/1					
1/1	<b>–</b> 0s	37ms/step			
1/1	<b>-</b> 0s	28ms/step			
1/1	<b>–</b> 0s	32ms/step			
1/1	<b>–</b> 0s	26ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	<b>-</b> 05	31ms/step			
1/1			_	loss	0 0025
1/1	<b>-</b> 0s	36ms/step	_	loss:	0.0023
1/1				1033.	0.0024
1/1					
1/1					
1/1	- 05	FOme /stop			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	<b>–</b> 0s	39ms/step			
1/1	<b>–</b> 0s	38ms/step			
1/1					
1/1					
1/1	<b>–</b> 0s	43ms/step			
1/1	<b>–</b> 0s	42ms/step			

```
1/1 -
               Os 39ms/step
                   - 0s 36ms/step
                   - 0s 49ms/step
1/1 ---
1/1 -
                    - 0s 38ms/step
                   - 0s 41ms/step - loss: 0.0019
1/1 -
               ---- 0s 39ms/step - loss: 0.0020
1/1 ----
1/1 -
                   - 0s 31ms/step
                   - 0s 37ms/step
                   - 0s 31ms/step
1/1 -
                   - 0s 31ms/step
          0s 34ms/step
1/1 -
                   - 0s 37ms/step
1/1 -----
                   - 0s 45ms/step
1/1 -
                   - 0s 38ms/step
1/1 -
1/1 -
                   — 0s 32ms/step
                    0s 35ms/step
1/1 -
1/1 -
                   - 0s 30ms/step
                  —— 0s 31ms/step
1/1 ---
                   - 0s 36ms/step
1/1 -
1/1 -
                   - 0s 46ms/step
                   - 0s 36ms/step
1/1 -
                   - 0s 30ms/step
1/1 ———— 0s 35ms/step
                   - 0s 36ms/step
1/1 -
                   - 0s 28ms/step
1/1 -
          0s 35ms/step
                   - 0s 44ms/step - loss: 0.0028
                    - 0s 34ms/step - loss: 0.0029
1/1 -
1/1 -----
                   - 0s 32ms/step
1/1 0s 32ms/step
                   - 0s 37ms/step
1/1 -
                  — 0s 31ms/step
                    - 0s 32ms/step
                    - 0s 28ms/step
1/1 -
               Os 30ms/step
1/1 -----
1/1 -
                   - 0s 36ms/step
1/1 -
                  -- 0s 57ms/step
1/1 0s 55ms/step
                   - 0s 43ms/step
1/1 -
                    - 0s 51ms/step
1/1 -
                   - 0s 33ms/step
1/1 0s 39ms/step
                   - 0s 32ms/step
1/1 -
                   — 0s 32ms/step
                    - 0s 33ms/step
                   - 0s 40ms/step
1/1 -
      0s 32ms/step
1/1 ----
                Os 32ms/step
1/1 -
                   — 0s 49ms/step - loss: 0.0026
1/1 -
1/1 ———— 0s 35ms/step - loss: 0.0025
Epoch: 127/149 | Loss: 0.0025 | Episodes: 512 | Win count: 5 | Win rate: 0.039 | tim
e: 16.44 minutes
1/1 0s 34ms/step
1/1 0s 35ms/step
1/1 — 0s 39ms/step
1/1 ---- 0s 31ms/step
```

1/1	0s	30ms/step			
1/1					
1/1					
1/1	0s	32ms/step			
1/1					
1/1	0s	35ms/step			
1/1					
1/1					
1/1					
1/1	0s	34ms/step			
1/1	0s	41ms/step			
1/1	0s	35ms/step			
1/1	0s	39ms/step			
1/1	0s	29ms/step			
1/1	0s	34ms/step			
1/1	0s	34ms/step			
1/1					
1/1			-	loss:	0.0020
1/1	0s	35ms/step			
1/1	0s	43ms/step			
1/1	0s	32ms/step			
1/1	0s	37ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	34ms/step			
1/1					
1/1	0s	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	38ms/step			
1/1				_	
1/1	0s	32ms/step	-	loss:	0.0028
1/1			-	loss:	0.0027
1/1					
1/1					
1/1	0s	40ms/step			
1/1					
1/1	05	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	US	36ms/step			
1/1					
1/1	05	29ms/step			
1/1					
1/1 ———————————————————————————————————	ØS Oc	JJIIIS/STEP			
1/1	ØS	41ms/step			

```
1/1 -
               Os 32ms/step
                    - 0s 28ms/step
                   - 0s 47ms/step
1/1 ---
1/1 -
                    - 0s 37ms/step
                    - 0s 40ms/step - loss: 0.0021
1/1 -
                ---- 0s 39ms/step - loss: 0.0020
1/1 -----
1/1 -
                    - 0s 33ms/step
                   - 0s 37ms/step
                    - 0s 41ms/step
1/1 -
                    - 0s 28ms/step
          0s 31ms/step
1/1 -
                    - 0s 46ms/step
1/1 -----
                   - 0s 34ms/step
1/1 -
                    - 0s 40ms/step
1/1 -
                   - 0s 35ms/step
1/1 -
                    - 0s 34ms/step
1/1 -
1/1 -
                    - 0s 33ms/step
                  Os 33ms/step
1/1 ---
                    - 0s 39ms/step
1/1 -
1/1 -
                   - 0s 28ms/step
                    - 0s 39ms/step
1/1 -
                    - 0s 33ms/step
1/1 ———— 0s 39ms/step
                    - 0s 33ms/step
1/1 -
                   - 0s 41ms/step
1/1 -
           0s 32ms/step
                   - 0s 35ms/step - loss: 0.0032
                    - 0s 38ms/step - loss: 0.0031
1/1 -
1/1 -----
                    - 0s 36ms/step
1/1 0s 32ms/step
                    - 0s 38ms/step
1/1 -
                   — 0s 52ms/step
                    - 0s 33ms/step
                    - 0s 39ms/step
1/1 -
               Os 32ms/step
1/1 -----
1/1 -
                    - 0s 37ms/step
1/1 -
                  -- 0s 32ms/step
1/1 ———— 0s 46ms/step
                   - 0s 30ms/step
1/1 -
                    - 0s 40ms/step
1/1 -
                   - 0s 37ms/step
1/1 Os 44ms/step
                    - 0s 35ms/step
1/1 -
                   — 0s 39ms/step
                    - 0s 36ms/step
                    - 0s 43ms/step
1/1 -
       0s 42ms/step
1/1 ---
                 Os 32ms/step
1/1 -
                   — 0s 37ms/step - loss: 0.0037
1/1 -
1/1 ———— 0s 37ms/step - loss: 0.0034
Epoch: 128/149 | Loss: 0.0034 | Episodes: 512 | Win count: 5 | Win rate: 0.039 | tim
e: 16.58 minutes
1/1 -----
                0s 27ms/step
1/1 ---
      Os 32ms/step
1/1 ——— 0s 40ms/step
1/1 ...... 0s 30ms/step
```

```
1/1 -
                  Os 32ms/step
                      - 0s 41ms/step
                      - 0s 41ms/step
1/1 -
1/1 -
                       - 0s 31ms/step
                       - 0s 48ms/step
1/1 -
                      - 0s 37ms/step
1/1 ----
1/1 -
                      - 0s 36ms/step
1/1 -
                       - 0s 28ms/step
                       - 0s 28ms/step
1/1 -
                      - 0s 33ms/step
                       - 0s 35ms/step
1/1 -
1/1 -----
                       - 0s 29ms/step
                      - 0s 32ms/step
1/1 -
                      - 0s 43ms/step
1/1 -
                      - 0s 37ms/step
1/1 -
                       - 0s 30ms/step
1/1 -
                      - 0s 34ms/step - loss: 0.0022
1/1 -
1/1 ——— 0s 48ms/step - loss: 0.0020
Epoch: 129/149 | Loss: 0.0020 | Episodes: 512 | Win count: 6 | Win rate: 0.046 | tim
e: 16.61 minutes
1/1
                      - 0s 37ms/step
                      - 0s 33ms/step
1/1 -
1/1 -----
                    — 0s 34ms/step
                      - 0s 35ms/step
1/1 -
                      - 0s 34ms/step
1/1 -
                  ——— 0s 33ms/step
                      - 0s 32ms/step
                       - 0s 41ms/step
1/1 -
1/1 -----
                      - 0s 42ms/step
                    Os 42ms/step
1/1 -----
                      - 0s 40ms/step
1/1 -
                      - 0s 56ms/step
                       - 0s 39ms/step
                       - 0s 37ms/step
1/1 -
                     — 0s 35ms/step
1/1 -
1/1 -
                      - 0s 41ms/step
1/1 -
                      - 0s 32ms/step
                      0s 34ms/step
                      - 0s 45ms/step
1/1 -
                       - 0s 27ms/step
1/1 -
                      - 0s 35ms/step - loss: 0.0030
1/1 -
                    — 0s 42ms/step - loss: 0.0031
1/1 -----
                       - 0s 28ms/step
1/1 -
                      - 0s 30ms/step
                       - 0s 54ms/step
                       - 0s 41ms/step
1/1 -
1/1 -
                       - 0s 35ms/step
1/1 -
                      - 0s 44ms/step
                       - 0s 43ms/step
1/1 -
                      - 0s 29ms/step
1/1 -
                       - 0s 33ms/step
1/1 -
                       - 0s 40ms/step
                       - 0s 33ms/step
1/1 -
1/1 -
                    --- 0s 27ms/step
                      - 0s 35ms/step
1/1 -
             Os 30ms/step
```

```
1/1 -
                 Os 37ms/step
                      - 0s 32ms/step
                     - 0s 29ms/step
1/1 -
                      - 0s 48ms/step
1/1 -
                      - 0s 46ms/step
1/1 -
                    — 0s 32ms/step
1/1 ----
1/1 -
                      - 0s 40ms/step - loss: 0.0030
1/1 -
                     — 0s 29ms/step - loss: 0.0030
                      - 0s 35ms/step
1/1 -
                      - 0s 47ms/step
                      - 0s 41ms/step
1/1 -
                      - 0s 45ms/step
1/1 -----
                      - 0s 31ms/step
1/1 -
                      - 0s 30ms/step
1/1 -
1/1 -
                     - 0s 46ms/step
                      - 0s 31ms/step
1/1 -
1/1 -
                      - 0s 33ms/step
                    — 0s 26ms/step
1/1 ---
                      - 0s 36ms/step
1/1 -
1/1 -
                      - 0s 27ms/step
                      - 0s 30ms/step
1/1 -
                      - 0s 34ms/step
1/1 -----
                    —— 0s 35ms/step
                      - 0s 37ms/step
1/1 -
                     - 0s 37ms/step
1/1 -
             0s 28ms/step
                     - 0s 35ms/step
                      - 0s 47ms/step
1/1 -
1/1 -----
                     - 0s 43ms/step - loss: 0.0024
1/1 -----
           Os 35ms/step - loss: 0.0024
                      - 0s 31ms/step
1/1 -
                     — 0s 51ms/step
                      - 0s 50ms/step
                      - 0s 34ms/step
1/1 -
                    —— 0s 32ms/step
1/1 -
1/1 -
                      - 0s 36ms/step
1/1 -
                     - 0s 36ms/step
                      - 0s 34ms/step
                      - 0s 32ms/step
1/1 -
                      - 0s 32ms/step
1/1 -
                      - 0s 38ms/step
1/1 -
1/1 -----
            Os 34ms/step
                      - 0s 29ms/step
1/1 -
                     — 0s 32ms/step
                      - 0s 43ms/step
                      - 0s 48ms/step
1/1 -
1/1 ---
                   Os 32ms/step
1/1 -
                     - 0s 38ms/step
                      - 0s 30ms/step
                 Os 45ms/step
                      - 0s 42ms/step - loss: 0.0023
1/1 -
1/1 — 0s 41ms/step - loss: 0.0022
Epoch: 130/149 | Loss: 0.0022 | Episodes: 512 | Win count: 6 | Win rate: 0.046 | tim
e: 16.72 minutes
1/1 — 0s 31ms/step
1/1 — 0s 42ms/step
                  Os 31ms/step
```

1/1	0s	35ms/step			
1/1	0s	34ms/step			
1/1	0s	33ms/step			
1/1	0s	35ms/step			
1/1	05 0s	33ms/step			
1/1	05	Jons/step			
1/1	0s	43ms/step			
1/1	0s	43ms/step	-	loss:	0.0031
			-	loss:	0.0031
1/1	0s	37ms/step			
1/1	0s	35ms/step			
1/1	0s	50ms/step			
1/1	05 0s	A1ms/step			
				1	0 0027
1/1	05	44ms/step	-	1055:	0.0027
1/1	05	50ms/step	-	1055:	0.0027
1/1	0s	46ms/step			
1/1	0s	47ms/step			
1/1	0s	38ms/step			
1/1	0s	26ms/step			
-, -		э, эсер			

```
1/1 -
              Os 31ms/step
                   - 0s 33ms/step
                   - 0s 30ms/step
                   - 0s 30ms/step
                   - 0s 31ms/step
1/1 -
                 Os 28ms/step
1/1 -----
1/1 -
                   - 0s 40ms/step - loss: 0.0028
                   — 0s 34ms/step - loss: 0.0028
                   - 0s 32ms/step
1/1 -
                   - 0s 45ms/step
    0s 34ms/step
1/1 -
                 —— 0s 32ms/step
1/1 -----
                  — 0s 30ms/step
1/1 -
                   - 0s 45ms/step
1/1 -
                   - 0s 33ms/step
1/1 -
                   - 0s 33ms/step
1/1 -
1/1 -
                   - 0s 30ms/step
                 —— 0s 33ms/step
1/1 -----
                   - 0s 48ms/step
1/1 -
                   - 0s 46ms/step
                 --- 0s 28ms/step
1/1 -
                   - 0s 31ms/step
1/1 ———— 0s 35ms/step
                   - 0s 38ms/step
1/1 -
                   - 0s 48ms/step
1/1 -
1/1 0s 35ms/step
                   - 0s 47ms/step
1/1 — 0s 65ms/step
1/1 — 0s 41ms/step - loss: 0.0022
1/1 ——— 0s 36ms/step - loss: 0.0021
Epoch: 131/149 | Loss: 0.0021 | Episodes: 512 | Win count: 6 | Win rate: 0.045 | tim
e: 16.83 minutes
1/1 Os 36ms/step
                   - 0s 29ms/step
1/1 -
1/1 0s 37ms/step
1/1 -----
                  — 0s 35ms/step
1/1 -
                 — 0s 31ms/step
1/1 0s 34ms/step
                   - 0s 34ms/step
1/1 -
                   - 0s 41ms/step
1/1 -
               0s 32ms/step
1/1 0s 59ms/step
                   - 0s 41ms/step
1/1 -
                 — 0s 55ms/step
                   - 0s 34ms/step
                   - 0s 34ms/step
1/1 -
1/1 ---
                —— 0s 36ms/step
1/1 -
                   - 0s 30ms/step
                   - 0s 33ms/step
1/1 -
              Os 28ms/step
                   - 0s 34ms/step
1/1 ———— 0s 34ms/step
               OS 40ms/step - loss: 0.0027
1/1 -
           Os 35ms/step - loss: 0.0026
1/1 -
                   - 0s 33ms/step
1/1 -
           0s 29ms/step
```

1/1					
1/1					
1/1					
1/1					
1/1	0s	49ms/step			
1/1					
1/1	0s	33ms/step			
1/1	0s	37ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1					
1/1	0s	33ms/step			
1/1	0s	35ms/step			
1/1					
1/1					
1/1					
1/1			-	loss:	0.0020
1/1					
1/1					
1/1	0s	34ms/step			
1/1	0s	31ms/step			
1/1					
1/1	0s	37ms/step			
1/1	0s	39ms/step			
1/1					
1/1	0s	32ms/step			
1/1					
1/1	0s	38ms/step			
1/1	0s	33ms/step			
1/1	0s	36ms/step			
1/1					
1/1					
1/1					
1/1	0s	40ms/step			
1/1	0s	37ms/step			
1/1					
1/1					
1/1	0s	39ms/step	-	loss:	0.0034
1/1			-	loss:	0.0033
1/1					
1/1					
1/1	0s	33ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	37ms/step			
1/1	0s	47ms/step			
1/1					
1/1	0s	61ms/step			

```
1/1 -
               Os 50ms/step
                   - 0s 51ms/step
1/1 ---
                   -- 0s 34ms/step
1/1 -
                   - 0s 35ms/step
                   - 0s 39ms/step
1/1 -
1/1 0s 34ms/step
      0s 35ms/step - loss: 0.0016
1/1 -
1/1 — 0s 38ms/step - loss: 0.0017
Epoch: 132/149 | Loss: 0.0017 | Episodes: 512 | Win count: 6 | Win rate: 0.045 | tim
e: 16.95 minutes
1/1 -
                   - 0s 42ms/step
1/1 -----
                 —— 0s 54ms/step
                  --- 0s 48ms/step
1/1 -----
1/1
                   - 0s 42ms/step
                   - 0s 32ms/step
1/1 -
                   - 0s 30ms/step
1/1 -
1/1 -
                   - 0s 29ms/step
1/1 -----
                 Os 35ms/step
                   - 0s 30ms/step
1/1 -
1/1 -
                   - 0s 41ms/step
                 —— 0s 30ms/step
1/1 -
                   - 0s 34ms/step
1/1 ———— 0s 29ms/step
                   - 0s 40ms/step
1/1 -
                   - 0s 33ms/step
1/1 -
1/1 os 35ms/step
1/1 -
                   - 0s 31ms/step
                   - 0s 32ms/step
1/1 -
1/1 -----
                   - 0s 40ms/step
1/1 ——— 0s 38ms/step
                   - 0s 43ms/step - loss: 0.0017
1/1 -
                 Os 52ms/step - loss: 0.0016
                   - 0s 32ms/step
                   - 0s 38ms/step
1/1 -
1/1 -----
               Os 43ms/step
1/1 -
                   - 0s 31ms/step
1/1 -
                  -- 0s 32ms/step
1/1 0s 33ms/step
                   - 0s 42ms/step
1/1 -
                   - 0s 32ms/step
1/1 -
                   - 0s 33ms/step
1/1 ----
1/1 Os 40ms/step
                   - 0s 29ms/step
1/1 -
                   — 0s 30ms/step
                   - 0s 36ms/step
                   - 0s 62ms/step
1/1 -
1/1 ---
                 Os 37ms/step
1/1 -
                   - 0s 29ms/step
                   - 0s 39ms/step
1/1 -
               Os 33ms/step
1/1 -
                   - 0s 41ms/step
1/1 ———— 0s 42ms/step
                —— 0s 51ms/step - loss: 0.0024
1/1 -
           Os 37ms/step - loss: 0.0024
1/1 -
                   - 0s 30ms/step
1/1 -
           0s 36ms/step
```

1/1	0s	50ms/step			
1/1					
1/1	0s	35ms/step			
1/1	0s	31ms/step			
1/1	0s	36ms/step			
1/1	0s	40ms/step			
1/1					
1/1	0s	33ms/step			
1/1					
1/1					
1/1	0s	31ms/step			
1/1					
1/1	0s	28ms/step			
1/1					
1/1	0s	35ms/step			
1/1					
1/1					
1/1					
1/1	0s	39ms/step	-	loss:	0.0023
1/1			-	loss:	0.0022
1/1	0s	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	37ms/step			
1/1					
1/1	0s	33ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	42ms/step			
1/1					
1/1 ———————————————————————————————————					
				1	0.0000
1/1 ———————————————————————————————————					
1/1	05	3/ms/step	-	1055:	0.0030
1/1	05	33ms/step			
1/1 ———————————————————————————————————	05	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	27mc/step			
1/1					
1/1	85	401115/Step			
1/1					
1/1	05	10mc/c+0p			
<u> </u>	<del>0</del> 3	-tom3/31Eb			

1/1 -	0s	30ms/step			
	0s				
	0s				
1/1 -	0s	38ms/step			
1/1 -	0s	48ms/step			
	0s				
1/1 -	0s	34ms/step	-	loss:	0.0031
1/1 -	0s	51ms/step	-	loss:	0.0030
1/1 -	0s	32ms/step			
1/1 -	0s	35ms/step			
1/1 -	Øs	37ms/step			
1/1 -	0s	34ms/step			
1/1 -	0s	42ms/step			
1/1 -	0s	41ms/step			
1/1 -	0s	31ms/step			
1/1 -	0s	38ms/step			
	0s				
1/1 -	0s	34ms/step			
	0s				
	0s				
1/1 -	0s	48ms/sten			
1/1 -	0s	45ms/sten			
	0s				
	0s				
1/1 —	0s	50ms/sten			
1/1 —	0s	43ms/sten			
	0s				
	0s				
1/1 —	0s	39ms/sten	_	loss:	0.0332
1/1 —	0s	33ms/step	_	1055.	0.0332
1/1 -	0s	49ms/step		1033.	0.0323
	0s				
1/1 -	0s	37ms/step			
1/1 -	0s	31ms/step			
1/1 -		50ms/step			
	0s	36ms/step			
1/1	0s	37ms/step			
1/1 -	0s	37ms/step			
1/1	0s	30ms/step			
1/1	0s	31ms/step			
1/1	0s	28ms/step			
1/1	0s	10ms/step			
	0s				
1/1 -	0s	331115/Step			
1/1	0s	35ms/step			
1/1 -	0s	Johns / Step			
1/1 -	0s	20ms/step			
1/1	0s	231115/Step			
1/1 -	0s	Jims/step			
1/1 -	0s	44ms/step			
	0s			1000	0 0010
1/1	0s	451115/STEP	-	1055:	0.0010
1/1 -	0s	40IIIS/STEP	-	TOSS:	פוסטיס.
1/1 -	0s	Joms/step			
	0s				
	0s				
1/1 -	0s	34ms/step			

```
1/1 -
                    Os 28ms/step
                      - 0s 30ms/step
                      - 0s 40ms/step
1/1 -
1/1 -
                       - 0s 50ms/step
                       - 0s 35ms/step
1/1 -
                      - 0s 33ms/step
1/1 ----
1/1 -
                       - 0s 35ms/step
1/1 -
                       - 0s 39ms/step
                       - 0s 33ms/step
1/1 -
                       - 0s 41ms/step
                       - 0s 31ms/step
1/1 -
1/1 -----
                       - 0s 51ms/step
                      - 0s 31ms/step
1/1 -
                      - 0s 31ms/step
1/1 -
                      - 0s 37ms/step
1/1 -
                       - 0s 39ms/step
1/1 -
                      - 0s 39ms/step - loss: 0.0021
1/1 -
1/1 ——— 0s 45ms/step - loss: 0.0022
Epoch: 133/149 | Loss: 0.0022 | Episodes: 512 | Win count: 6 | Win rate: 0.045 | tim
e: 17.18 minutes
1/1 -----
                      - 0s 35ms/step
                      - 0s 30ms/step
1/1 -
1/1 -----
                     —— 0s 38ms/step
                       - 0s 39ms/step
1/1 -
                      - 0s 30ms/step
1/1 -
                    Os 31ms/step
                      - 0s 42ms/step
                       - 0s 42ms/step
1/1 -
1/1 -----
                      - 0s 33ms/step
                    Os 37ms/step
1/1 -----
                      - 0s 49ms/step
1/1 -
                      - 0s 40ms/step
                       - 0s 42ms/step
                       - 0s 40ms/step
1/1 -
                     — 0s 50ms/step
1/1 -
1/1 -
                      - 0s 44ms/step
1/1 -
                      - 0s 52ms/step
                      - 0s 43ms/step
                      - 0s 42ms/step
1/1 -
                       - 0s 33ms/step
1/1 -
                      - 0s 52ms/step - loss: 0.0017
1/1 -
1/1 -----
                    --- 0s 50ms/step - loss: 0.0017
                       - 0s 40ms/step
1/1 -
                      - 0s 40ms/step
                       - 0s 37ms/step
                       - 0s 43ms/step
1/1 -
1/1 -
                       - 0s 38ms/step
1/1 -
                      - 0s 37ms/step
                       - 0s 59ms/step
1/1 -
                      0s 47ms/step
1/1 -
                       - 0s 39ms/step
1/1 -
                       - 0s 46ms/step
                       - 0s 38ms/step
1/1 -
1/1 -
                      - 0s 52ms/step
                      - 0s 56ms/step
1/1 -
                 Os 48ms/step
```

1/1	0s	49ms/step			
1/1	0s	45ms/step			
1/1	0s	45ms/step			
1/1	0s	35ms/step			
1/1	0s	32ms/step			
1/1	0s	38ms/step			
1/1					
1/1	0s	51ms/step	-	loss:	0.0019
1/1					
1/1					
1/1					
1/1					
1/1	0s	43ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	31ms/step			
1/1					
1/1	0s	37ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	54ms/step	-	loss:	0.0022
1/1			-	loss:	0.0021
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	36ms/step			
1/1					
1/1	05	39ms/step			
1/1					
1/1					
1/1					
1/1	05	32ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1			_	1055.	0 0288
1/1	96	34mc/sten	_	1022.	0.0200
1/1				1000.	3.02/0
1/1	95	39ms/sten			
1/1					
1/1	05	30ms/sten			
-, <del>-</del>	55	555, 5 ccp			

1/1	Qc.	20mc/c+on			
1/1					
1/1					
1/1	05	32ms/step			
1/1	0s	29ms/step			
1/1					
1/1					
1/1					
1/1	0s	35ms/step			
1/1					
1/1	0s	33ms/step			
1/1	0s	47ms/step			
1/1					
1/1	95	38ms/sten			
1/1					
1/1					
1/1				1000	0 0024
1/1					
			-	1088:	0.0034
1/1					
1/1					
1/1	0s	64ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	29ms/step			
1/1	0s	30ms/step			
1/1	0s	42ms/step			
1/1	0s	45ms/step			
1/1					
1/1	0s	40ms/step			
1/1	0s	34ms/step			
1/1	0s	41ms/step			
1/1	0s	44ms/step			
1/1	0s	42ms/step			
1/1	0s	40ms/step			
1/1	0s	40ms/step			
1/1	0s	55ms/step	_	loss:	0.0032
1/1	0s	36ms/step	_	loss:	0.0034
1/1	0s	41ms/step			
1/1					
1/1					
1/1	0s	40ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	30ms/sten			
1/1	95	39ms/sten			
1/1					
1/1					
1/1	95	36ms/sten			
-/-	03	20113/3cep			

```
1/1 -
              Os 33ms/step
                   - 0s 32ms/step
                  -- 0s 42ms/step
1/1 ---
1/1 -
                   - 0s 41ms/step
                   - 0s 39ms/step - loss: 0.0018
1/1 -
             Os 41ms/step - loss: 0.0017
1/1 -----
1/1 -
                   - 0s 35ms/step
                   - 0s 34ms/step
                   - 0s 42ms/step
                   - 0s 39ms/step
1/1 -
    0s 34ms/step
1/1 -
1/1 _____
                ---- 0s 37ms/step
                  — 0s 37ms/step
1/1 -
                   - 0s 32ms/step
1/1 -
                   - 0s 31ms/step
1/1 -
                   0s 49ms/step
1/1 -
1/1 -
                   - 0s 38ms/step
                 —— 0s 35ms/step
1/1 -----
                   - 0s 38ms/step
1/1 -
1/1 -
                   - 0s 45ms/step
                 —— 0s 33ms/step
1/1 -
                   - 0s 34ms/step
1/1 ———— 0s 31ms/step
                   - 0s 47ms/step
1/1 -
                  -- 0s 45ms/step
1/1 -
1/1 0s 40ms/step
                   - 0s 40ms/step - loss: 0.0015
1/1 — 0s 65ms/step - 10ss. 0.0015
Epoch: 134/149 | Loss: 0.0016 | Episodes: 512 | Win count: 6 | Win rate: 0.044 | tim
e: 17.41 minutes
                   - 0s 38ms/step
1/1 -
1/1 -----
                 —— 0s 36ms/step
                   - 0s 33ms/step
                   - 0s 43ms/step
1/1 -
1/1 -----
               Os 40ms/step
1/1 -
                   - 0s 39ms/step
1/1 -
                  — 0s 34ms/step
1/1 0s 39ms/step
                   - 0s 40ms/step
1/1 -
                   - 0s 36ms/step
1/1 -
               Os 37ms/step
1/1 ----
1/1 0s 39ms/step
                   - 0s 44ms/step
1/1 -
                  -- 0s 40ms/step
                   - 0s 39ms/step
                   - 0s 39ms/step
1/1 -
1/1 ---
                Os 50ms/step
1/1 -
                   - 0s 45ms/step
                   - 0s 34ms/step
1/1 -
1/1 0s 52ms/step
                   – 0s 44ms/step - loss: 0.0039
1/1 -
1/1 — 0s 37ms/step - loss: 0.0038
                Os 37ms/step
1/1 -
          0s 36ms/step
1/1 -
       0s 32ms/step
1/1 -
1/1 0s 35ms/step
```

1/1					
1/1	0s	30ms/step			
1/1					
1/1					
1/1	0s	28ms/step			
1/1					
1/1	0s	32ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	36ms/step			
1/1	0s	41ms/step			
1/1	0s	34ms/step			
1/1					
1/1	0s	44ms/step	-	loss:	0.0027
1/1			-	loss:	0.0027
1/1					
1/1					
1/1	0s	55ms/step			
1/1					
1/1	0s	48ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	35ms/step			
1/1	0s	34ms/step			
1/1	0s	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	45ms/step	-	loss:	0.0029
1/1	0s	27ms/step			
1/1					
1/1					
1/1					
1/1	0s	37ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	34ms/step			
1/1	0s	33ms/step			
1/1	0s	42ms/step			
1/1	ØS	კგms/step			

```
1/1 -
             _____ 0s 38ms/step
              0s 32ms/step
                --- 0s 27ms/step
1/1 ---
                  - 0s 29ms/step
                  – 0s 36ms/step - loss: 0.0028
1/1 -
1/1 ——— 0s 41ms/step - loss: 0.0027
Epoch: 135/149 | Loss: 0.0027 | Episodes: 512 | Win count: 6 | Win rate: 0.044 | tim
e: 17.53 minutes
                —— 0s 47ms/step
1/1 -
                  - 0s 39ms/step
1/1 ———— 0s 40ms/step
1/1 -----
              Os 37ms/step
                —— 0s 33ms/step
1/1 ---
1/1
                  - 0s 44ms/step
                  -- 0s 43ms/step
1/1 -
                   0s 45ms/step
1/1 -
1/1 -
                  - 0s 46ms/step
1/1 -----
                --- 0s 56ms/step
                  - 0s 38ms/step
1/1 -
1/1 -
                  - 0s 42ms/step
                Os 41ms/step
1/1 -
                  - 0s 37ms/step
1/1 ———— 0s 34ms/step
                  - 0s 31ms/step
1/1 -
                  -- 0s 31ms/step
1/1 -
1/1 ——— 0s 29ms/step
                  - 0s 41ms/step
                   - 0s 33ms/step
1/1 -
1/1 ——— 0s 33ms/step - loss: 0.0023
                  - 0s 33ms/step
1/1 -
                 — 0s 34ms/step
                   - 0s 40ms/step
                   - 0s 37ms/step
1/1 -
1/1 ———— 0s 31ms/step
1/1 -
                  - 0s 30ms/step
1/1 -
                 --- 0s 42ms/step
1/1 ...... 0s 37ms/step
                  - 0s 36ms/step
1/1 -
                   - 0s 37ms/step
1/1 -
                  - 0s 34ms/step
1/1 -----
1/1 0s 32ms/step
                  - 0s 39ms/step
1/1 -
                 — 0s 29ms/step
                   - 0s 35ms/step
                  - 0s 36ms/step
1/1 -
1/1 ---
                Os 34ms/step
1/1 -
                  - 0s 48ms/step
                  - 0s 38ms/step
1/1 -
1/1 0s 47ms/step
                  – 0s 56ms/step - loss: 0.0019
1/1 -
    0s 49ms/step - loss: 0.0019
1/1 -
               Os 44ms/step
1/1 -
      0s 44ms/step
1/1 -
                  - 0s 33ms/step
1/1 -
1/1 0s 32ms/step
```

1/1	0s	29ms/step			
1/1					
1/1					
1/1	05	39ms/sten			
1/1					
1/1	0s	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	95	42ms/step			
1/1					
1/1	95	40ms/sten			
1/1					
1/1					
1/1			_	loss:	0.0032
1/1					
1/1					
1/1	0s	37ms/step			
1/1					
1/1	0s	38ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	36ms/step			
1/1	0s	30ms/step			
1/1	0s	31ms/step			
1/1	0s	29ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	33ms/step			
1/1	0s	28ms/step			
1/1					
1/1			-	loss:	0.0018
1/1					
1/1					
1/1	0s	35ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	43ms/step			
1/1	05	20mc/step			
1/1					
1/1					
1/1	05 0c	32mc/c+an			
-, -	J 3	<i>σ</i> 2σ/ στερ			

1/1					
1/1					
1/1	0s	55ms/step			
1/1					
1/1	0s	47ms/step	-	loss:	0.0022
1/1			-	loss:	0.0022
1/1					
1/1					
1/1					
1/1					
1/1	0s	46ms/step			
1/1					
1/1 ———————————————————————————————————	05	3/ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	42ms/step			
1/1					
1/1	0s	43ms/step			
1/1					
1/1					
1/1					
1/1					
1/1	0s	40ms/step	-	loss:	0.0036
1/1			-	loss:	0.0036
1/1	0s	37ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	40ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	42ms/step			
1/1					
1/1	0s	36ms/step			
1/1	0s	32ms/step			
1/1	0s	39ms/step			
1/1					
1/1			-	loss:	0.0018
1/1					
1/1					
1/1	0s	40ms/step			
1/1					
1/1	0s	35ms/step			
1/1	0s	35ms/step			

```
1/1 -
              Os 46ms/step
                   - 0s 43ms/step
1/1 ---
                   - 0s 37ms/step
1/1 -
                   - 0s 44ms/step
                   - 0s 32ms/step
1/1 -
                  - 0s 36ms/step
1/1 -----
1/1 -
                   - 0s 36ms/step
                   - 0s 38ms/step
                   - 0s 38ms/step
1/1 -
                   - 0s 36ms/step
              Os 31ms/step
1/1 -
1/1 0s 36ms/step
                 --- 0s 44ms/step
1/1 -
1/1 os 30ms/step
                  — 0s 41ms/step - loss: 0.0016
1/1 -
    0s 46ms/step - loss: 0.0017
Epoch: 136/149 | Loss: 0.0017 | Episodes: 512 | Win count: 6 | Win rate: 0.044 | tim
e: 17.77 minutes
                  --- 0s 44ms/step
1/1 -----
1/1 -
                 — 0s 36ms/step
               Os 30ms/step
1/1 -
                   - 0s 34ms/step
1/1 ———— 0s 36ms/step
                   - 0s 39ms/step
1/1 -
                   - 0s 35ms/step
1/1 -
1/1 os 34ms/step
                   - 0s 29ms/step
                   - 0s 34ms/step
1/1 -
1/1 -----
                   - 0s 34ms/step
1/1 0s 36ms/step
                   - 0s 40ms/step
1/1 -
                  — 0s 39ms/step
                   - 0s 44ms/step
                   - 0s 38ms/step
1/1 -
1/1 -----
              Os 31ms/step
1/1 -
                   - 0s 34ms/step
1/1 -
                 0s 45ms/step
1/1 ---- 0s 41ms/step
                   - 0s 53ms/step - loss: 0.0025
1/1 -
                   - 0s 42ms/step - loss: 0.0024
1/1 -
                Os 42ms/step
1/1 -
1/1 0s 36ms/step
                   - 0s 41ms/step
1/1 -
                  — 0s 37ms/step
                   - 0s 40ms/step
                   - 0s 39ms/step
1/1 -
1/1 -
                 Os 56ms/step
1/1 -
                   - 0s 44ms/step
                   - 0s 50ms/step
1/1 -
               Os 30ms/step
1/1 -
                   - 0s 34ms/step
    Os 33ms/step
1/1 -
                   - 0s 36ms/step
1/1 -
1/1 -
          Os 35ms/step
                   - 0s 32ms/step
1/1 -
          0s 31ms/step
```

```
1/1 -
               Os 32ms/step
                   - 0s 34ms/step
                   - 0s 37ms/step
1/1 ---
1/1 -
                    - 0s 29ms/step
                   - 0s 35ms/step - loss: 0.0029
1/1 -
               Os 38ms/step - loss: 0.0027
1/1 ----
1/1 -
                   - 0s 45ms/step
                   - 0s 37ms/step
                   - 0s 35ms/step
1/1 -
                   - 0s 33ms/step
          0s 35ms/step
1/1 -
                   - 0s 35ms/step
1/1 -----
                   — 0s 36ms/step
1/1 -
                   - 0s 35ms/step
1/1 -
1/1 -
                   - 0s 38ms/step
                    0s 30ms/step
1/1 -
1/1 -
                   - 0s 30ms/step
                  — 0s 34ms/step
1/1 ---
                   - 0s 33ms/step
1/1 -
1/1 -
                   - 0s 35ms/step
                  Os 39ms/step
1/1 -
                   - 0s 30ms/step
1/1 ———— 0s 33ms/step
                   - 0s 40ms/step
1/1 -
                   - 0s 53ms/step
1/1 -
          0s 32ms/step
                   - 0s 44ms/step - loss: 0.0031
                    - 0s 47ms/step - loss: 0.0030
1/1 -
1/1 -----
                   - 0s 37ms/step
1/1 Os 41ms/step
                   - 0s 31ms/step
1/1 -
                   — 0s 41ms/step
                    - 0s 32ms/step
                    - 0s 30ms/step
1/1 -
1/1 -----
               Os 37ms/step
1/1 -
                   - 0s 32ms/step
1/1 -
                  -- 0s 38ms/step
1/1 0s 35ms/step
                   - 0s 36ms/step
1/1 -
                    - 0s 53ms/step
1/1 -
                   - 0s 40ms/step
1/1 0s 39ms/step
                   - 0s 33ms/step
1/1 -
                   — 0s 28ms/step
                    - 0s 42ms/step
                   - 0s 26ms/step
1/1 -
       Os 34ms/step
1/1 ----
                Os 34ms/step
1/1 -
                   - 0s 51ms/step - loss: 0.0015
1/1 -
1/1 ---- 0s 35ms/step - loss: 0.0014
Epoch: 137/149 | Loss: 0.0014 | Episodes: 512 | Win count: 6 | Win rate: 0.043 | tim
e: 17.88 minutes
                Os 35ms/step
1/1 -----
1/1 ---
      Os 34ms/step
1/1 — 0s 38ms/step
1/1 ...... 0s 35ms/step
```

1/1	0-	24 / - +				
1/1						
1/1	0s	33ms/step				
1/1	0s	34ms/step				
1/1						
1/1						
1/1						
1/1	0s	34ms/step				
1/1	0s	34ms/step				
1/1						
1/1						
1/1						
1/1	0s	25ms/step				
1/1						
1/1	0s	34ms/step				
1/1	0s	48ms/step				
1/1			_	1000	0 0022	
1/1						
1/1	05	42ms/step	_	1022:	0.0022	
1/1	0s	39ms/step				
1/1						
1/1	0s	39ms/step				
1/1	0s	30ms/step				
1/1						
1/1						
1/1						
1/1						
1/1						
1/1	0s	53ms/step				
1/1	0s	67ms/step				
1/1	۵c	36ms/sten				
1/1						
1/1						
1/1						
1/1						
1/1	0s	45ms/step				
1/1	0s	33ms/step				
1/1						
1/1	05	36ms/step				
1/1				1	0 0035	
1/1	05	43mS/Step	-	1055:	0.0035	
1/1			-	loss:	0.0034	
1/1						
1/1						
1/1	0s	29ms/step				
1/1	<b>0</b> s	36ms/sten				
1/1						
1/1						
1/1						
1/1						
1/1						
1/1	0s	31ms/step				
1/1						
1/1	00	33mc/c+op				
1/1	US	3⊥ms/step				
1/1						
1/1	0s	43ms/step				
1/1	0s	40ms/step				
		•				

1/1					
1/1	0s	38ms/step			
1/1	0s	37ms/step			
1/1	0s	45ms/step			
1/1			_	loss:	0.0025
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	30ms/step			
1/1					
1/1	0s	40ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	03	25ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1				1000	0 0026
1/1	05	45111S/Step	-	1055.	0.0020
1/1			-	1055.	0.0020
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	301115/Step			
1/1					
1/1					
1/1					
1/1					
1/1				1000	0 0027
1/1					
1/1			-	1055:	0.0025
1/1					
1/1	<b>US</b>	osms/step			
1/1					
1/1					
1/1	05	esma/step			
1/1	95	steb/ عادد			

```
1/1 -
              Os 46ms/step
                   - 0s 48ms/step
                  - 0s 43ms/step
1/1 ---
1/1 -
                   - 0s 43ms/step
                   - 0s 45ms/step
1/1 -
                  — 0s 38ms/step
1/1 -----
                   - 0s 37ms/step
1/1 -
                   - 0s 34ms/step
                   - 0s 39ms/step
1/1 -
                   - 0s 41ms/step
              Os 44ms/step
1/1 -
1/1 0s 46ms/step
                 --- 0s 40ms/step
1/1 -
1/1 ———— 0s 42ms/step
                  — 0s 40ms/step - loss: 0.0023
1/1 -
    0s 33ms/step - loss: 0.0024
Epoch: 138/149 | Loss: 0.0024 | Episodes: 512 | Win count: 6 | Win rate: 0.043 | tim
e: 18.06 minutes
                 Os 37ms/step
1/1 -
1/1 -
                 —— 0s 33ms/step
    0s 37ms/step
1/1 -
                   - 0s 30ms/step
1/1 ———— 0s 35ms/step
                   - 0s 35ms/step
1/1 -
                  - 0s 42ms/step
1/1 -
1/1 ———— 0s 47ms/step
                  - 0s 44ms/step
                   - 0s 39ms/step
1/1 -
1/1 -----
                   - 0s 44ms/step
1/1 0s 35ms/step
                   - 0s 28ms/step
1/1 -
                 — 0s 45ms/step
                   - 0s 39ms/step
                   - 0s 42ms/step
1/1 -
1/1 -----
              Os 52ms/step
1/1 -
                   - 0s 44ms/step
1/1 -
                 — 0s 37ms/step
1/1 0s 39ms/step
                  - 0s 40ms/step - loss: 0.0046
1/1 -
                   - 0s 42ms/step - loss: 0.0042
1/1 -
                  - 0s 31ms/step
1/1 -
1/1 0s 31ms/step
                   - 0s 42ms/step
1/1 -
                  - 0s 40ms/step
                   - 0s 33ms/step
                   - 0s 28ms/step
1/1 -
1/1 -
                 —— 0s 34ms/step
1/1 -
                   - 0s 35ms/step
                   - 0s 36ms/step
1/1 -
               Os 36ms/step
                   - 0s 34ms/step
1/1 -
    0s 45ms/step
1/1 -
               ____ 0s 37ms/step
1/1 -
          Os 37ms/step
1/1 -
       Os 41ms/step
1/1 -
          0s 35ms/step
```

4 /4	0-	27 / - +			
1/1					
1/1					
1/1	<b>0</b> s	46ms/sten			
1/1	00	20ms/step			
				_	
1/1	0s	38ms/step	-	loss:	0.0027
1/1	0s	31ms/step	-	loss:	0.0027
1/1					
1/1					
1/1					
1/1					
1/1	<b>0</b> s	34ms/sten			
1/1	00	20ms/step			
1/1	0s	39ms/step			
1/1					
1/1	0s	35ms/step			
1/1					
1/1					
1/1					
1/1	0s	37ms/step			
1/1	95	44ms/sten			
1/1	05	3/111S/Step			
1/1					
1/1	0s	32ms/step			
1/1	0s	43ms/step			
1/1					
1/1					
1/1	0s	38ms/step	-	loss:	0.0028
1/1	0s	42ms/step	-	loss:	0.0027
1/1	0s	43ms/step			
1/1	Qc.	36ms/sten			
1/1	0s	35ms/step			
1/1					
1/1	0s	45ms/step			
1/1	<b>0</b> s	47ms/sten			
1/1					
1/1					
1/1	0s	34ms/step			
1/1	0s	31ms/step			
1/1	<b>0</b> s	32ms/sten			
1/1	Qc.	20ms/stop			
1/1					
1/1					
1/1	0s	46ms/step			
1/1	<b>0</b> s	32ms/sten			
1/1					
1/1	03	25 / L			
1/1					
1/1					
1/1	0s	39ms/step			
1/1			_	loss:	0.0020
1/1					
1/1	05	+oms/step	-	TO22:	0.0020
1/1	0s	37ms/step			
1/1					
1/1	0s	54ms/sten			
1/1	0c	41ms/sten			
1/1					
1/1	05	oms/step			
1/1	0s	32ms/step			

```
1/1 -
                   —— 0s 34ms/step
                      - 0s 34ms/step
                      - 0s 35ms/step
1/1 -
1/1 -
                      - 0s 38ms/step
                      - 0s 37ms/step
1/1 -
                      - 0s 45ms/step
1/1 ----
1/1 -
                      - 0s 36ms/step
                      - 0s 35ms/step
                      - 0s 40ms/step
                      - 0s 31ms/step
1/1 -
                      - 0s 33ms/step
1/1 -
1/1 -----
                      - 0s 41ms/step
                      - 0s 31ms/step
1/1 -
                      - 0s 32ms/step
1/1 -
                      - 0s 40ms/step - loss: 0.0034
1/1 -
                      - 0s 46ms/step - loss: 0.0031
1/1 -
1/1 -
                      - 0s 33ms/step
1/1 ----
                    — 0s 33ms/step
                      - 0s 36ms/step
1/1 -
1/1 -
                      - 0s 28ms/step
                      - 0s 38ms/step
1/1 -
                      - 0s 31ms/step
1/1 -----
                    —— 0s 31ms/step
                      - 0s 32ms/step
1/1 -
                      - 0s 42ms/step
1/1 -
                 Os 51ms/step
                      - 0s 37ms/step
                      - 0s 34ms/step
1/1 -
1/1 -----
                      - 0s 37ms/step
                    Os 43ms/step
1/1 -----
                      - 0s 40ms/step
1/1 -
                      — 0s 36ms/step
                      - 0s 32ms/step
                      - 0s 36ms/step
1/1 -
1/1 -----
                  Os 33ms/step
1/1 -----
                  Os 41ms/step
1/1 — Os 39ms/step - loss: 0.0029
1/1 — Os 40ms/step - loss: 0.0027
Epoch: 139/149 | Loss: 0.0027 | Episodes: 512 | Win count: 6 | Win rate: 0.043 | tim
e: 18.23 minutes
1/1 -----
                    — 0s 36ms/step
1/1 0s 54ms/step
                      - 0s 44ms/step
1/1 -
                     — 0s 37ms/step
                      - 0s 44ms/step
                      - 0s 39ms/step
1/1 -
1/1 -
                    — 0s 33ms/step
1/1 -
                      - 0s 30ms/step
                      - 0s 44ms/step
1/1 -
                      — 0s 32ms/step
1/1 -
                      - 0s 32ms/step
1/1 -
                      - 0s 34ms/step
                      - 0s 36ms/step
1/1 -
1/1 -
                 Os 33ms/step
                      - 0s 38ms/step
1/1 -
             0s 38ms/step
```

1/1	0s	51ms/step			
1/1					
1/1					
1/1					
1/1	0s	37ms/step	-	loss:	0.0024
1/1			-	loss:	0.0025
1/1					
1/1					
1/1 ———————————————————————————————————	05	45ms/step			
1/1					
1/1	05	33ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	43ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1 ———————————————————————————————————	0s	32ms/step			
1/1				10551	0 0024
1/1	05	1/ms/step	_	1055.	0.0024
1/1				1033.	0.0023
1/1					
1/1					
1/1					
1/1	0s	38ms/step			
1/1					
1/1					
1/1					
1/1					
1/1 ———————————————————————————————————					
1/1					
1/1					
1/1	05	45ms/step			
1/1					
1/1					
1/1					
1/1	0s	35ms/step			
1/1					
1/1					
1/1	0s	47ms/step	-	loss:	0.0034
1/1	0s	38ms/step	-	loss:	0.0034
1/1					
1/1 ———————————————————————————————————					
1/1					
1/1					
1/1					
-, <del>-</del>	,,	э, эсср			

1/1	0s	30ms/step			
1/1					
1/1	0s	32ms/step			
1/1	0s	34ms/step			
1/1	0s	31ms/step			
1/1	0s	34ms/step			
1/1	0s	43ms/step			
1/1					
1/1					
1/1	۵s	33ms/step			
1/1					
1/1					
1/1	05	38ms/step			
1/1	05	43ms/step			
				_	
1/1					
1/1			-	loss:	0.0021
1/1					
1/1					
1/1					
1/1	0s	32ms/step			
1/1	0s	40ms/step			
1/1	0s	33ms/step			
1/1	0s	30ms/step			
1/1					
1/1	0s	48ms/step			
1/1	0s	41ms/step			
1/1					
1/1					
1/1	05	32ms/step			
1/1	95	45ms/sten			
1/1					
1/1					
1/1					
1/1	as	39ms/step			
1/1	۵s	32ms/step			
1/1	05	35ms/step			
1/1	05	50ms/step	_	1000	0 0022
1/1	05	50ms/step		1033.	0.0022
1/1			_	1033.	0.0021
1/1					
1/1	05	12ms/step			
1/1	05	43111S/Step			
1/1					
1/1	05	36ms/step			
1/1	05	30ms/step			
1/1	05	38ms/step			
1/1	05	41ms/step			
1/1	0s	34ms/step			
1/1	0s	30ms/step			
1/1	0s	32ms/step			
1/1					
1/1	0s	27ms/step			
1/1	0s	30ms/step			
1/1	0s	32ms/step			
1/1	0s	49ms/step			
1/1	0s	34ms/step			
1/1	0s	39ms/step			

```
1/1 -----
           Os 45ms/step
    0s 46ms/step
Epoch: 140/149 | Loss: 0.0023 | Episodes: 512 | Win count: 6 | Win rate: 0.043 | tim
e: 18.40 minutes
1/1 -
                 — 0s 29ms/step
1/1 -
               —— 0s 45ms/step
         0s 33ms/step
1/1 -
                 — 0s 49ms/step
    Os 40ms/step
1/1 -
1/1 -----
              Os 46ms/step
                Os 50ms/step
1/1 -
                  - 0s 54ms/step
1/1 -
                 -- 0s 42ms/step
1/1 -
                  - 0s 57ms/step
1/1 -
1/1 -
                 - 0s 46ms/step
1/1 -----
           0s 39ms/step
                  - 0s 49ms/step
1/1 -
                 - 0s 52ms/step
                —— 0s 47ms/step
1/1 -
                  - 0s 45ms/step
1/1 ———— 0s 63ms/step
                  - 0s 36ms/step
1/1 -
                -- 0s 38ms/step
1/1 -
1/1 Os 34ms/step
                 - 0s 42ms/step - loss: 0.0030
                  - 0s 49ms/step - loss: 0.0030
1/1 -
1/1 ———— 0s 46ms/step
1/1 Os 40ms/step
                  - 0s 44ms/step
1/1 -
                --- 0s 35ms/step
                  - 0s 34ms/step
                  - 0s 34ms/step
1/1 -
1/1 ———— 0s 44ms/step
1/1 -
                  - 0s 36ms/step
1/1 -
                — 0s 36ms/step
1/1 ———— 0s 34ms/step
                 - 0s 30ms/step
1/1 -
                  - 0s 36ms/step
1/1 -
                 - 0s 29ms/step
1/1 0s 36ms/step
                  - 0s 38ms/step
1/1 -
                --- 0s 35ms/step
                  - 0s 36ms/step
                  - 0s 36ms/step
1/1 -
          0s 49ms/step
1/1 ---
1/1 -
                 - 0s 38ms/step
                  – 0s 39ms/step - loss: 0.0030
1/1 -
              Os 34ms/step - loss: 0.0028
1/1 -
                  - 0s 40ms/step
    0s 34ms/step
1/1 -
                  - 0s 33ms/step
1/1 -
1/1 -
        Os 33ms/step
      0s 43ms/step
1/1 -
          0s 29ms/step
```

```
1/1 -
                    Os 34ms/step
                      - 0s 31ms/step
                      - 0s 42ms/step
1/1 -
1/1 -
                      - 0s 30ms/step
                      - 0s 42ms/step
1/1 -
                      - 0s 51ms/step
1/1 ----
                      - 0s 56ms/step
1/1 -
                      - 0s 43ms/step
                      - 0s 48ms/step
1/1 -
                      - 0s 37ms/step
                      - 0s 42ms/step
1/1 -
                      - 0s 33ms/step
1/1 -----
                      - 0s 34ms/step
1/1 -
                      - 0s 35ms/step
1/1 -
                      – 0s 45ms/step - loss: 0.0037
1/1 -
                      - 0s 46ms/step - loss: 0.0036
1/1 -
1/1 -
                      - 0s 35ms/step
1/1 ----
                     — 0s 35ms/step
                      - 0s 59ms/step
1/1 -
1/1 -
                      - 0s 36ms/step
                      - 0s 41ms/step
1/1 -
                      - 0s 33ms/step
1/1 -----
                    —— 0s 37ms/step
                      - 0s 32ms/step
1/1 -
                      - 0s 53ms/step
1/1 -
                 Os 30ms/step
                      - 0s 35ms/step
                      - 0s 30ms/step
1/1 -
1/1 -----
                      - 0s 27ms/step
                    — 0s 38ms/step
1/1 -----
                      - 0s 33ms/step
1/1 -
                      - 0s 44ms/step
                      - 0s 28ms/step
                      - 0s 33ms/step
1/1 -
1/1 -----
                    —— 0s 31ms/step
1/1 -----
                      - 0s 46ms/step
1/1 -
                   —— 0s 46ms/step - loss: 0.0033
1/1 ———— 0s 41ms/step - loss: 0.0030
Epoch: 141/149 | Loss: 0.0030 | Episodes: 512 | Win count: 6 | Win rate: 0.042 | tim
e: 18.52 minutes
1/1 -----
                     — 0s 36ms/step
1/1 0s 63ms/step
                      - 0s 34ms/step
1/1 -
                     — 0s 35ms/step
                      - 0s 41ms/step
                      - 0s 35ms/step
1/1 -
1/1 -
                    — 0s 38ms/step
1/1 -
                      - 0s 33ms/step
                      - 0s 38ms/step
1/1 -
                      - 0s 33ms/step
1/1 -
                      - 0s 27ms/step
1/1 -
                      - 0s 36ms/step
                      - 0s 30ms/step
1/1 -
1/1 -
                 Os 46ms/step
                      - 0s 37ms/step
1/1 -
             0s 34ms/step
```

1/1	۵c	39ms/stan			
1/1					
1/1					
1/1	OS Oc	35ms/step			
1/1			_	1055.	a a293
1/1	OS Os	10ms/step	_	1055.	0.0233
1/1				1033.	0.0203
1/1					
1/1					
1/1					
1/1					
1/1	05	35ms/step			
1/1					
1/1	0s	45ms/step			
1/1					
1/1	0s	33ms/step			
1/1					
1/1					
1/1					
1/1	0s	36ms/step			
1/1					
1/1	0s	33ms/step			
1/1					
1/1					
1/1					
1/1	0s	35ms/step			
1/1	0s	42ms/step	-	loss:	0.0020
1/1	0s	40ms/step	-	loss:	0.0020
1/1	0s	45ms/step			
1/1	0s	44ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	38ms/step			
1/1					
1/1	0s	47ms/step			
1/1					
1/1					
1/1					
1/1	0s	32ms/step			
1/1					
1/1	0s	43ms/step			
1/1					
1/1					
1/1					
1/1					
1/1			-	loss:	0.0022
1/1	05	35ms/step			
1/1					
1/1 ———————————————————————————————————	US O-	36MS/step			
1/1					
1/1	05	Soms/step			
1/1	05	אראווכר / steb			

```
1/1 -
              Os 49ms/step
                   - 0s 32ms/step
1/1 ---
                  - 0s 49ms/step
1/1 -
                   - 0s 39ms/step
                   - 0s 31ms/step
1/1 -
                 --- 0s 37ms/step
1/1 -----
1/1 -
                   - 0s 29ms/step
                   - 0s 37ms/step
                   - 0s 31ms/step
1/1 -
                   - 0s 47ms/step
    0s 36ms/step
1/1 -
1/1 Os 30ms/step
                0s 41ms/step
1/1 -
1/1 ---- 0s 31ms/step
                  — 0s 36ms/step - loss: 0.0017
1/1 -
    0s 41ms/step - loss: 0.0017
Epoch: 142/149 | Loss: 0.0017 | Episodes: 512 | Win count: 6 | Win rate: 0.042 | tim
e: 18.63 minutes
                 — 0s 49ms/step
1/1 ---
1/1 -
                 --- 0s 41ms/step
               Os 48ms/step
1/1 -
                   - 0s 43ms/step
1/1 ———— 0s 34ms/step
                   - 0s 37ms/step
1/1 -
                   - 0s 32ms/step
1/1 -
1/1 0s 29ms/step
                   - 0s 34ms/step
                   - 0s 33ms/step
1/1 -
1/1 -----
                   - 0s 34ms/step
1/1 — 0s 42ms/step
                   - 0s 38ms/step
1/1 -
                 — 0s 49ms/step
                   - 0s 42ms/step
                   - 0s 46ms/step
1/1 -
1/1 0s 33ms/step
1/1 -
                   - 0s 34ms/step
1/1 -
                 --- 0s 38ms/step
1/1 ———— 0s 45ms/step
                   — 0s 34ms/step - loss: 0.0023
1/1 -
                   - 0s 35ms/step - loss: 0.0023
1/1 -
               Os 29ms/step
1/1 -
1/1 0s 34ms/step
                   - 0s 35ms/step
1/1 -
                  — 0s 34ms/step
                   - 0s 32ms/step
                   - 0s 27ms/step
1/1 -
1/1 ---
                 —— 0s 33ms/step
1/1 -
                   - 0s 35ms/step
                   - 0s 40ms/step
1/1 -
               Os 44ms/step
1/1 -
                   - 0s 40ms/step
    Os 28ms/step
1/1 -
                   - 0s 42ms/step
1/1 -
          0s 34ms/step
1/1 -
                   - 0s 29ms/step
1/1 -
1/1 ---- 0s 48ms/step
```

```
1/1 -
              Os 31ms/step
                   - 0s 32ms/step
                   - 0s 30ms/step
1/1 ---
1/1 -
                   - 0s 30ms/step
                   - 0s 42ms/step - loss: 0.0308
1/1 -
               Os 35ms/step - loss: 0.0298
1/1 -----
1/1 -
                   - 0s 30ms/step
                   - 0s 32ms/step
                   - 0s 37ms/step
1/1 -
                   - 0s 32ms/step
    0s 37ms/step
1/1 -
                Os 28ms/step
1/1 -----
                  — 0s 47ms/step
1/1 -
                   - 0s 44ms/step
1/1 -
                   - 0s 41ms/step
1/1 -
                   - 0s 32ms/step
1/1 -
1/1 -
                   - 0s 33ms/step
1/1 -----
                 —— 0s 37ms/step
                   - 0s 38ms/step
1/1 -
1/1 -
                   - 0s 37ms/step
                 —— 0s 38ms/step
1/1 -
                   - 0s 31ms/step
1/1 ———— 0s 34ms/step
                   - 0s 42ms/step
1/1 -
                   - 0s 40ms/step
1/1 -
          0s 46ms/step
                   - 0s 47ms/step - loss: 0.0027
                   - 0s 52ms/step - loss: 0.0028
1/1 -
1/1 — 0s 37ms/step
1/1 0s 33ms/step
                   - 0s 36ms/step
1/1 -
                  --- 0s 36ms/step
                   - 0s 34ms/step
                   - 0s 37ms/step
1/1 -
1/1 0s 45ms/step
1/1 -
                   - 0s 30ms/step
1/1 -
                  — 0s 37ms/step
1/1 ---- 0s 31ms/step
                   - 0s 39ms/step
1/1 -
                   - 0s 42ms/step
1/1 -
                   - 0s 35ms/step
1/1 Os 50ms/step
                   - 0s 39ms/step
1/1 -
                  — 0s 34ms/step
                   - 0s 34ms/step
                   - 0s 39ms/step
1/1 -
1/1 ———— 0s 40ms/step
                Os 31ms/step
1/1 -
                   — 0s 37ms/step - loss: 0.0024
1/1 -
1/1 ———— 0s 45ms/step - loss: 0.0025
Epoch: 143/149 | Loss: 0.0025 | Episodes: 512 | Win count: 6 | Win rate: 0.042 | tim
e: 18.75 minutes
1/1 0s 38ms/step
1/1 ---
      0s 35ms/step
1/1 ———— 0s 45ms/step
1/1 ...... 0s 37ms/step
```

1/1					
1/1	0s	44ms/step			
1/1					
1/1					
1/1	0s	37ms/step			
1/1					
1/1	0s	36ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	44ms/step			
1/1	0s	38ms/step			
1/1	0s	45ms/step			
1/1					
1/1					
1/1			-	loss:	0.0018
1/1					
1/1					
1/1	0s	34ms/step			
1/1					
1/1	0s	39ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	51ms/step			
1/1	0s	35ms/step			
1/1	0s	52ms/step			
1/1	0s	39ms/step			
1/1	0s	44ms/step			
1/1					
1/1					
1/1					
1/1					
1/1				_	
1/1					
1/1			-	loss:	0.0026
1/1					
1/1					
1/1					
1/1					
1/1	05	33ms/step			
1/1 ———————————————————————————————————					
1/1					
1/1 ———————————————————————————————————					
1/1					
1/1					
1/1 ———————————————————————————————————	US	44ms/step			
1/1	US	54ms/step			
1/1					
1/1	ØS	58ms/step			

1/1	0s	41ms/step			
1/1					
1/1					
1/1					
1/1					
1/1			-	loss:	0.0050
1/1					
1/1					
1/1	0s	39ms/step			
1/1					
1/1	0s	36ms/step			
1/1					
1/1					
1/1					
1/1					
1/1 ———————————————————————————————————					
1/1	05	38ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	46ms/step	_	loss:	0.0025
1/1	0s	40ms/step	_	loss:	0.0025
1/1					
1/1					
1/1					
1/1	0s	44ms/step			
1/1	0s	43ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	39ms/step			
1/1					
1/1					
1/1 ———————————————————————————————————					
1/1					
1/1					
1/1					
1/1				1000	0 0296
1/1					
1/1			_	1033.	0.0201
1/1					
1/1					
1/1					
1/1					
1/1					
-		-, - <b></b> p			

1/1					
1/1					
1/1	0s	33ms/step			
1/1					
1/1	0s	34ms/step			
1/1					
1/1	0s	33ms/step			
1/1	0s	39ms/step			
1/1	0s	31ms/step			
1/1					
1/1					
1/1	0s	35ms/step			
1/1					
1/1	0s	42ms/step			
1/1			_	loss:	0.0026
1/1	05	39ms/sten	_	loss:	0.0025
1/1					0.0025
1/1					
1/1					
1/1	05	30ms/step			
1/1					
1/1	05	30ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	42ms/step			
1/1					
1/1	05	36ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	38ms/step	-	loss:	0.0047
1/1			-	loss:	0.0047
1/1					
1/1					
1/1					
1/1					
1/1	0s	33ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	42ms/step			
1/1	0s	31ms/step			
1/1	0s	37ms/step			
1/1	0s	31ms/step			
1/1	0s	39ms/step			
1/1	0s	31ms/step			

```
1/1 -----
           Os 33ms/step
    0s 45ms/step
1/1 — Os 56ms/step - loss: 0.0045
1/1 — Os 39ms/step - loss: 0.0043
Epoch: 144/149 | Loss: 0.0043 | Episodes: 512 | Win count: 6 | Win rate: 0.041 | tim
e: 18.99 minutes
1/1 -
                 — 0s 43ms/step
1/1 -
               —— 0s 40ms/step
         0s 48ms/step
1/1 -
                 - 0s 44ms/step
    Os 41ms/step
1/1 -
1/1 0s 29ms/step
                —— 0s 37ms/step
1/1 -
    0s 48ms/step
1/1 -
                 — 0s 31ms/step
1/1 -
                  0s 46ms/step
1/1 -
1/1 -
                 - 0s 32ms/step
1/1 -----
           0s 49ms/step
                  - 0s 36ms/step
1/1 -
                 -- 0s 55ms/step
                —— 0s 48ms/step
1/1 -
                  - 0s 38ms/step
1/1 ———— 0s 39ms/step
                 — 0s 45ms/step
1/1 -
                — 0s 32ms/step
1/1 -
1/1 Os 32ms/step
                 — 0s 35ms/step - loss: 0.0027
    0s 43ms/step - loss: 0.0026
1/1 -
1/1 — 0s 31ms/step
1/1 0s 31ms/step
                  - 0s 31ms/step
1/1 -
                --- 0s 40ms/step
                  - 0s 40ms/step
                  - 0s 40ms/step
1/1 -
1/1 0s 37ms/step
1/1 -
                  - 0s 34ms/step
1/1 -
                --- 0s 32ms/step
1/1 ---- 0s 40ms/step
                 - 0s 30ms/step
1/1 -
                  - 0s 30ms/step
1/1 -
                 - 0s 35ms/step
1/1 0s 34ms/step
                  - 0s 40ms/step
1/1 -
                —— 0s 36ms/step
                  - 0s 30ms/step
                  - 0s 37ms/step
1/1 -
          0s 35ms/step
1/1 ---
1/1 -
                 - 0s 43ms/step
                 — 0s 46ms/step - loss: 0.0040
1/1 -
          0s 53ms/step - loss: 0.0037
1/1 -
                  - 0s 37ms/step
1/1 ———— 0s 39ms/step
              Os 33ms/step
1/1 -
1/1 -
      Os 39ms/step
      0s 39ms/step
1/1 -
1/1 0s 35ms/step
```

1/1					
1/1					
1/1	0s	40ms/step			
1/1	0s	38ms/step			
1/1	0s	33ms/step			
1/1	0s	35ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	05	30ms/step			
1/1	US	34ms/step			
1/1					
1/1					
1/1			-	loss:	0.0029
1/1					
1/1					
1/1	0s	34ms/step			
1/1	0s	35ms/step			
1/1	0s	34ms/step			
1/1	0s	42ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	40ms/step			
1/1					
1/1	0s	42ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1			_	loss:	0.0021
1/1	0s	45ms/step	_	loss:	0.0021
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	95	37ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	OS OS	28mc/c+an			
1/1	OS OS	21mc/c+an			
1/1					
1/1					
1/1	Oc.	37mc/c+an			
±/ ±	<del>0</del> 3	2/1113/2reh			

```
1/1 -
            Os 32ms/step
              Os 33ms/step
              Os 40ms/step - loss: 0.0019
1/1 ---
1/1 -
                 - 0s 49ms/step - loss: 0.0021
                 - 0s 33ms/step
1/1 -
1/1 0s 33ms/step
                 - 0s 34ms/step
1/1 -
                --- 0s 51ms/step
               Os 31ms/step
1/1 -
                 — 0s 43ms/step
    Os 40ms/step
1/1 -
1/1 ——— 0s 31ms/step
          0s 30ms/step
1/1 -
                 - 0s 48ms/step
1/1 -
                 — 0s 43ms/step
1/1 -
                 - 0s 36ms/step
1/1 -
     0s 37ms/step
1/1 -
1/1 0s 33ms/step
                 - 0s 32ms/step
1/1 -
1/1 -
                --- 0s 39ms/step
    0s 39ms/step
1/1 -
                 - 0s 43ms/step
1/1 ———— 0s 47ms/step
        Os 44ms/step
1/1 -
             Os 45ms/step - loss: 0.0024
1/1 -
1/1 ---- 0s 54ms/step - loss: 0.0026
Epoch: 145/149 | Loss: 0.0026 | Episodes: 512 | Win count: 6 | Win rate: 0.041 | tim
e: 19.16 minutes
1/1 -----
                — 0s 44ms/step
1/1 0s 63ms/step
                 - 0s 48ms/step
1/1 -
               —— 0s 43ms/step
                 - 0s 53ms/step
                 - 0s 50ms/step
1/1 -
1/1 os 55ms/step
1/1 -
                — 0s 42ms/step
1/1 -
               ____ 0s 33ms/step
1/1 ...... 0s 35ms/step
                 — 0s 36ms/step
1/1 -
                 - 0s 37ms/step
1/1 -
     0s 37ms/step
1/1 -----
1/1 0s 34ms/step
                 - 0s 34ms/step
1/1 -
             Os 37ms/step
                 - 0s 36ms/step
                 - 0s 42ms/step
1/1 -
      0s 35ms/step
1/1 ---
1/1 -
                — 0s 37ms/step
                 — 0s 34ms/step - loss: 0.0026
1/1 -
1/1 ——— 0s 34ms/step - loss: 0.0025
                 - 0s 33ms/step
1/1 -
1/1 ———— 0s 31ms/step
       Os 31ms/step
1/1 -
1/1 -
     Os 40ms/step
     0s 29ms/step
1/1 -
1/1 ---- 0s 38ms/step
```

1/1	<b>–</b> 0s	34ms/step			
1/1	<b>–</b> 0s	27ms/step			
1/1	<b>–</b> 0s	36ms/step			
1/1	<b>–</b> 0s	36ms/step			
1/1	<b>–</b> 0s	37ms/step			
1/1	– 0s	38ms/step			
1/1	– 0s	41ms/step			
1/1	– 0s	47ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	<b>–</b> 0s	53ms/step	-	loss:	0.0020
1/1			-	loss:	0.0021
1/1					
1/1					
1/1					
1/1					
1/1	<b>–</b> 0s	34ms/step			
1/1					
1/1	<b>–</b> 0s	33ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	– 0s	28ms/step			
1/1					
1/1	– 0s	38ms/step			
1/1					
1/1	– 0s	37ms/step			
1/1					
1/1					
1/1				-	
1/1					
1/1			-	loss:	0.0033
1/1 ———————————————————————————————————					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	_ 0s	10ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	_ Oc	35mc/c+an			
1/1	_ 0c	34mc/c+an			
1/1					
±/ ±	03	2±1113/3(EP			

```
1/1 -----
          Os 31ms/step
    0s 34ms/step
Epoch: 146/149 | Loss: 0.0016 | Episodes: 512 | Win count: 6 | Win rate: 0.041 | tim
e: 19.28 minutes
1/1 ---
               — 0s 32ms/step
1/1 -
              Os 40ms/step
         0s 39ms/step
1/1 -
                — 0s 34ms/step
    Os 36ms/step
1/1 -
1/1 0s 32ms/step
               —— 0s 34ms/step
1/1 -
    0s 52ms/step
1/1 -
                — 0s 44ms/step
1/1 -
                 - 0s 35ms/step
1/1 -
1/1 -
                - 0s 34ms/step
1/1 -----
          0s 31ms/step
                 - 0s 30ms/step
1/1 -
                — 0s 33ms/step
             Os 30ms/step
1/1 -
                 - 0s 31ms/step
1/1 ———— 0s 40ms/step
                - 0s 35ms/step
1/1 -
               — 0s 33ms/step
1/1 -
1/1 ———— 0s 27ms/step
                — 0s 66ms/step - loss: 0.0018
    0s 37ms/step - loss: 0.0018
1/1 -
1/1 — 0s 45ms/step
1/1 Os 43ms/step
                 - 0s 47ms/step
1/1 -
               --- 0s 34ms/step
                 - 0s 33ms/step
                 - 0s 30ms/step
1/1 -
1/1 0s 51ms/step
1/1 -
                - 0s 36ms/step
1/1 -
               --- 0s 37ms/step
1/1 ...... 0s 33ms/step
                - 0s 34ms/step
1/1 -
                 - 0s 38ms/step
1/1 -
             Os 34ms/step
1/1 0s 37ms/step
                 - 0s 34ms/step
1/1 -
              —— 0s 36ms/step
                 - 0s 40ms/step
                 - 0s 42ms/step
1/1 -
      0s 43ms/step
1/1 ---
1/1 -
                - 0s 42ms/step
                - 0s 38ms/step - loss: 0.0018
1/1 ——— 0s 37ms/step - loss: 0.0017
                 - 0s 40ms/step
1/1 ———— 0s 30ms/step
             Os 37ms/step
1/1 -
     0s 33ms/step
1/1 -
      0s 35ms/step
1/1 -
1/1 ———— 0s 40ms/step
```

```
1/1 -
                 Os 38ms/step
                     - 0s 49ms/step
                     - 0s 31ms/step
1/1 -
                     - 0s 34ms/step
1/1 -
                     - 0s 42ms/step
1/1 -
                     - 0s 51ms/step
1/1 -----
1/1 -
                     - 0s 38ms/step
                     - 0s 32ms/step
                     - 0s 32ms/step
1/1 -
                     - 0s 40ms/step
                     - 0s 30ms/step
1/1 -
                     - 0s 37ms/step
1/1 -----
                     - 0s 34ms/step
1/1 -
                     - 0s 35ms/step
1/1 -
                     – 0s 34ms/step - loss: 0.0020
1/1 -
                     - 0s 42ms/step - loss: 0.0020
1/1 -
1/1 -
                     - 0s 33ms/step
1/1 ----
                   — 0s 34ms/step
                     - 0s 30ms/step
1/1 -
1/1 -
                     - 0s 34ms/step
                     - 0s 41ms/step
1/1 -
                     - 0s 41ms/step
1/1 -----
                   —— 0s 32ms/step
                     - 0s 35ms/step
1/1 -
                     - 0s 32ms/step
1/1 -
                Os 46ms/step
                     - 0s 31ms/step
                     - 0s 32ms/step
1/1 -
1/1 -----
                     - 0s 32ms/step
           ———— 0s 35ms/step
1/1 -----
                     - 0s 34ms/step
1/1 -
                    — 0s 32ms/step
                     - 0s 32ms/step
                     - 0s 42ms/step
1/1 -
1/1 -----
                Os 34ms/step
1/1 -----
                 ____ 0s 31ms/step
                 OS 44ms/step - loss: 0.0022
1/1 -
1/1 ———— 0s 55ms/step - loss: 0.0022
Epoch: 147/149 | Loss: 0.0022 | Episodes: 512 | Win count: 6 | Win rate: 0.041 | tim
e: 19.39 minutes
1/1 -----
                   — 0s 36ms/step
1/1 0s 35ms/step
                     - 0s 39ms/step
1/1 -
                    — 0s 29ms/step
                     - 0s 33ms/step
                     - 0s 38ms/step
1/1 -
1/1 -
                   — 0s 47ms/step
1/1 -
                     - 0s 46ms/step
                     - 0s 40ms/step
1/1 -
                 Os 42ms/step
1/1 -
                     - 0s 28ms/step
     Os 37ms/step
1/1 -
                     - 0s 45ms/step
1/1 -
                Os 36ms/step
1/1 -
                     - 0s 39ms/step
1/1 -
            0s 36ms/step
```

```
1/1 -
               Os 34ms/step
                   - 0s 30ms/step
                   - 0s 36ms/step
1/1 ---
                    - 0s 31ms/step
                    - 0s 31ms/step - loss: 0.0042
1/1 -
               ---- 0s 30ms/step - loss: 0.0040
1/1 -----
1/1 -
                   - 0s 41ms/step
                   - 0s 35ms/step
                   - 0s 32ms/step
1/1 -
                   - 0s 48ms/step
          0s 35ms/step
1/1 -
                    - 0s 34ms/step
1/1 -----
                  — 0s 33ms/step
1/1 -
                   - 0s 35ms/step
1/1 -
                   - 0s 48ms/step
1/1 -
                    - 0s 34ms/step
1/1 -
1/1 -
                   - 0s 31ms/step
                  —— 0s 33ms/step
1/1 ----
                   - 0s 35ms/step
1/1 -
1/1 -
                   - 0s 44ms/step
                   - 0s 36ms/step
1/1 -
                   - 0s 33ms/step
1/1 ———— 0s 37ms/step
                   - 0s 36ms/step
1/1 -
                   - 0s 45ms/step
1/1 -
          0s 33ms/step
                   - 0s 48ms/step - loss: 0.0031
                    - 0s 54ms/step - loss: 0.0029
1/1 -
1/1 -----
                   - 0s 36ms/step
1/1 0s 37ms/step
                   - 0s 34ms/step
1/1 -
                  — 0s 32ms/step
                    - 0s 33ms/step
                    - 0s 36ms/step
1/1 -
1/1 -----
               Os 45ms/step
1/1 -
                   - 0s 48ms/step
1/1 -
                  -- 0s 38ms/step
1/1 0s 39ms/step
                   - 0s 32ms/step
1/1 -
                    - 0s 32ms/step
1/1 -
                   - 0s 30ms/step
1/1 Os 27ms/step
                    - 0s 37ms/step
1/1 -
                   — 0s 55ms/step
                    - 0s 46ms/step
                   - 0s 46ms/step
1/1 -
1/1 ———— 0s 41ms/step
                Os 43ms/step
1/1 -
                   — 0s 36ms/step - loss: 0.0025
1/1 -
1/1 ———— 0s 36ms/step - loss: 0.0024
Epoch: 148/149 | Loss: 0.0024 | Episodes: 512 | Win count: 6 | Win rate: 0.040 | tim
e: 19.48 minutes
1/1 0s 35ms/step
1/1 ---
      Os 57ms/step
1/1 ———— 0s 36ms/step
1/1 ...... 0s 34ms/step
```

1/1	0s	41ms/step			
1/1	0s	36ms/step			
1/1	0s	30ms/step			
1/1	0s	35ms/step			
1/1	0s	62ms/step			
1/1	0s	52ms/step			
1/1	0s	33ms/step			
1/1	0s	34ms/step			
1/1	0s	42ms/step			
1/1	 0s	34ms/step			
1/1	0s	42ms/step	-	loss:	0.0017
			-	loss:	0.0017
1/1	0s	34ms/step			
1/1	 0s	30ms/step			
1/1	0s	42ms/step			
1/1	0s	39ms/step			
1/1	0s	40ms/step			
1/1	 0s	50ms/step			
1/1	0s	51ms/step			
1/1	0s	56ms/step	-	loss:	0.0035
			-	loss:	0.0030
1/1	0s	39ms/step			
1/1	0s	39ms/step			
1/1	0s	36ms/step			
1/1	0s	41ms/step			

	_				
1/1	ØS.	4/ms/step			
1/1					
1/1	0s	34ms/step			
1/1					
1/1					
1/1			-	loss:	0.0032
1/1					
1/1					
1/1	0s	52ms/step			
1/1					
1/1	0s	31ms/step			
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	40ms/step			
1/1	0s	29ms/step			
1/1	0s	31ms/step			
1/1	0s	33ms/step			
1/1					
1/1	0s	31ms/step			
1/1	0s	33ms/step			
1/1					
1/1	0s	37ms/step			
1/1	0s	39ms/step			
1/1	0s	35ms/step	_	loss:	0.0021
1/1	0s	44ms/step	_	loss:	0.0021
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	36ms/step			
1/1		37ms/step			
1/1	0s				
1/1					
1/1					
1/1					
1/1					
1/1					
1/1	0s	41ms/step			
1/1					
1/1	0s	43ms/step			
1/1					
1/1					
1/1					
1/1					
1/1			_	loss:	0.0021
1/1	0s	45ms/step	_	loss:	0.0022
1/1					
1/1	0s	51ms/sten			
1/1					
1/1					
1/1					
1/1					
-		-,			

```
1/1 -
              Os 48ms/step
                   - 0s 31ms/step
1/1 ----
                  - 0s 32ms/step
1/1 ---
                   - 0s 46ms/step
1/1 -
                   - 0s 30ms/step
1/1 Os 36ms/step
1/1 -
                   - 0s 37ms/step
1/1 -
                 Os 33ms/step
                   - 0s 41ms/step
                  - 0s 31ms/step
1/1 -
1/1 ———— 0s 26ms/step
1/1 0s 37ms/step
1/1 ---
           Os 40ms/step
1/1 0s 33ms/step
                  — 0s 55ms/step - loss: 0.0032
1/1 ----
1/1 — 0s 46ms/step - loss: 0.0032
Epoch: 149/149 | Loss: 0.0032 | Episodes: 512 | Win count: 6 | Win rate: 0.040 | tim
e: 19.66 minutes
n_epoch: 150, max_mem: 512, data: 32, time: 19.66 minutes
```

Out[11]: 1179.461493

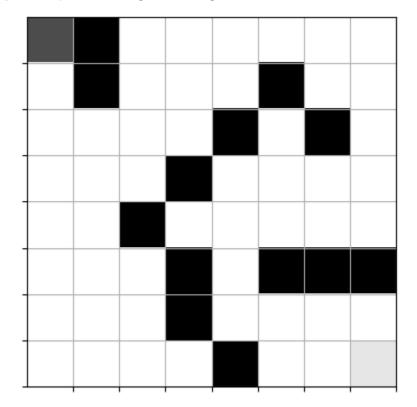
This cell will check to see if the model passes the completion check. Note: This could take several minutes.

1/1	0s	35ms/step
1/1	0s	30ms/step
1/1	 0s	30ms/step
1/1	 0s	27ms/step
1/1	0s	34ms/step
1/1	 0s	30ms/step
1/1	 0s	38ms/step
1/1	 0s	28ms/step
1/1	0s	35ms/step
1/1	0s	30ms/step
1/1	0s	29ms/step
1/1	0s	29ms/step
1/1	 0s	26ms/step
1/1	0s	27ms/step
1/1	 0s	25ms/step
1/1	0s	35ms/step
1/1	0s	33ms/step
1/1	0s	24ms/step
1/1	0s	29ms/step
1/1	0s	25ms/step
1/1	0s	
1/1		23ms/step
-	0s	28ms/step
1/1	0s	28ms/step
1/1	0s	24ms/step
1/1	0s	24ms/step
1/1	0s	27ms/step
1/1	0s	28ms/step
1/1	0s	28ms/step
1/1	0s	27ms/step
1/1	0s	28ms/step
1/1	0s	24ms/step
1/1	0s	30ms/step
1/1	0s	33ms/step
1/1	0s	27ms/step
1/1	0s	30ms/step
1/1	0s	28ms/step
1/1	0s	35ms/step
1/1	0s	26ms/step
1/1	0s	25ms/step
1/1	0s	28ms/step
1/1	0s	44ms/step
1/1	0s	24ms/step
1/1	0s	33ms/step
1/1	0s	30ms/step
1/1	0s	31ms/step
1/1	0s	25ms/step
1/1	0s	26ms/step
1/1	0s	28ms/step
1/1	0s	23ms/step
1/1	 0s	26ms/step
1/1	0s	27ms/step
1/1	0s	36ms/step
1/1	0s	29ms/step
1/1	0s	28ms/step
1/1	0s	25ms/step
1/1	0s	
. –		-, P

1/1	 0s	31ms/step
1/1	 0s	28ms/step
1/1	 0s	25ms/step
1/1	0s	23ms/step
1/1	0s	25ms/step
1/1	 0s	28ms/step
1/1	0s	24ms/step
1/1	0s	26ms/step
1/1	0s	26ms/step
1/1	0s	31ms/step
1/1	0s	23ms/step
1/1	0s	24ms/step
1/1	0s	33ms/step
1/1	0s	-
1/1	0s	28ms/step
-		25ms/step
1/1	0s	24ms/step
1/1	0s	29ms/step
1/1	0s	22ms/step
1/1	0s	29ms/step
1/1	0s	28ms/step
1/1	0s	26ms/step
1/1	0s	30ms/step
1/1	0s	27ms/step
1/1	0s	28ms/step
1/1	0s	28ms/step
1/1	0s	26ms/step
1/1	0s	25ms/step
1/1	0s	32ms/step
1/1	0s	29ms/step
1/1	0s	25ms/step
1/1	0s	26ms/step
1/1	0s	25ms/step
1/1	0s	26ms/step
1/1	0s	24ms/step
1/1	0s	27ms/step
1/1	0s	25ms/step
1/1	0s	28ms/step
1/1	0s	30ms/step
1/1	0s	28ms/step
1/1	0s	35ms/step
1/1	0s	35ms/step
1/1	0s	29ms/step
1/1	0s	29ms/step
1/1	0s	25ms/step
1/1	0s	25ms/step
1/1	0s	35ms/step
1/1	0s	34ms/step
1/1	0s	27ms/step
1/1	0s	27ms/step
1/1	0s	28ms/step
1/1	0s	24ms/step
1/1	0s	25ms/step
1/1	0s	31ms/step
1/1	0s	30ms/step
1/1	0s	25ms/step
1/1	0s	25ms/step
-	_	, <b>r</b>

1/1	0s	29ms/step
1/1	0s	31ms/step
1/1	0s	31ms/step
1/1	0s	31ms/step
1/1	0s	37ms/step
1/1	0s	31ms/step
1/1	0s	31ms/step
1/1	0s	26ms/step
1/1	0s	25ms/step
1/1	0s	27ms/step
1/1	0s	33ms/step
1/1	0s	26ms/step
1/1	0s	25ms/step
1/1	0s	27ms/step
1/1	0s	24ms/step
1/1	0s	30ms/step

Out[12]: <matplotlib.image.AxesImage at 0x2af6ce43b30>



This cell will test your model for one game. It will start the pirate at the top-left corner and run play\_game. The agent should find a path from the starting position to the target (treasure). The treasure is located in the bottom-right corner.

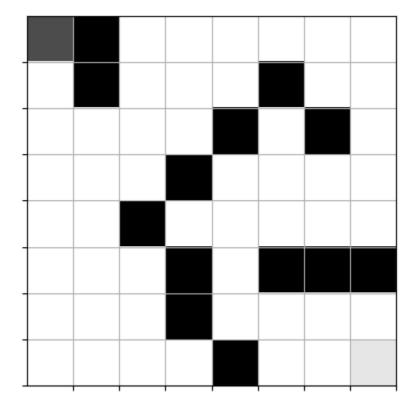
```
In [13]: pirate_start = (0, 0)
    play_game(model, qmaze, pirate_start)
    show(qmaze)
```

1/1	 0s	32ms/step
1/1	0s	33ms/step
1/1	0s	25ms/step
1/1	 0s	36ms/step
1/1	 0s	46ms/step
1/1	0s	33ms/step
1/1	 0s	31ms/step
1/1	 0s	45ms/step
1/1	 0s	41ms/step
1/1	0s	31ms/step
1/1	0s	31ms/step
1/1	0s	28ms/step
1/1	0s	29ms/step
1/1	0s	27ms/step
1/1	0s	30ms/step
1/1	0s	28ms/step
٠.	0s	, ,
1/1		27ms/step
1/1	0s	29ms/step
1/1	0s	26ms/step
1/1	0s	32ms/step
1/1	0s	33ms/step
1/1	0s	26ms/step
1/1	0s	25ms/step
1/1	0s	37ms/step
1/1	0s	31ms/step
1/1	0s	29ms/step
1/1	 0s	23ms/step
1/1	0s	27ms/step
1/1	0s	29ms/step
1/1	0s	24ms/step
1/1	 0s	28ms/step
1/1	 0s	28ms/step
1/1	 0s	28ms/step
1/1	 0s	26ms/step
1/1	 0s	24ms/step
1/1	0s	35ms/step
1/1	0s	26ms/step
1/1	0s	29ms/step
1/1	0s	28ms/step
1/1	0s	31ms/step
1/1	 0s	24ms/step
1/1	0s	26ms/step
1/1	0s	27ms/step
1/1	 0s	35ms/step
1/1	0s	26ms/step
1/1	0s	31ms/step
1/1	0s	28ms/step
1/1	0s	30ms/step
1/1	0s	35ms/step
1/1	0s	38ms/step
1/1	0s	36ms/step
1/1	0s	•
•	0s	25ms/step
1/1		28ms/step
1/1	0s	33ms/step
1/1	0s	27ms/step
1/1	0s	27ms/step

1/1	 0s	26ms/step
1/1	0s	30ms/step
1/1	 0s	30ms/step
1/1	 0s	28ms/step
1/1	 0s	29ms/step
1/1	0s	26ms/step
1/1	 0s	33ms/step
1/1	 0s	32ms/step
1/1	 0s	31ms/step
1/1	0s	24ms/step
1/1	 0s	32ms/step
1/1	0s	30ms/step
1/1	0s	32ms/step
1/1	0s	28ms/step
1/1	0s	28ms/step
1/1	0s	30ms/step
٠.	0s	•
1/1		24ms/step
1/1	0s	24ms/step
1/1	0s	26ms/step
1/1	0s	31ms/step
1/1	0s	35ms/step
1/1	0s	26ms/step
1/1	0s	27ms/step
1/1	0s	26ms/step
1/1	0s	27ms/step
1/1	0s	29ms/step
1/1	0s	32ms/step
1/1	0s	34ms/step
1/1	0s	30ms/step
1/1	 0s	33ms/step
1/1	 0s	35ms/step
1/1	0s	29ms/step
1/1	0s	27ms/step
1/1	0s	25ms/step
1/1	 0s	30ms/step
1/1	0s	28ms/step
1/1	0s	27ms/step
1/1	0s	28ms/step
1/1	0s	27ms/step
1/1	 0s	30ms/step
1/1	 0s	30ms/step
1/1	 0s	23ms/step
1/1	 0s	26ms/step
1/1	0s	27ms/step
1/1	0s	29ms/step
1/1	0s	31ms/step
1/1	 0s	32ms/step
1/1	0s	27ms/step
1/1	0s	27ms/step
1/1	0s	26ms/step
1/1	0s	28ms/step
1/1	0s	27ms/step
1/1	0s	30ms/step
1/1	0s	29ms/step
1/1	0s	•
· .		26ms/step
1/1	0s	31ms/step

1/1	0s	34ms/step
1/1	0s	24ms/step
1/1	0s	24ms/step
1/1	0s	25ms/step
1/1	0s	33ms/step
1/1	0s	30ms/step
1/1	0s	29ms/step
1/1	0s	26ms/step
1/1	0s	35ms/step
1/1	0s	33ms/step
1/1	0s	25ms/step
1/1	0s	26ms/step
1/1	0s	30ms/step
1/1	0s	28ms/step
1/1	0s	32ms/step
1/1	0s	24ms/step
1/1	0s	30ms/step

Out[13]: <matplotlib.image.AxesImage at 0x2af67fa2b10>



## Save and Submit Your Work

After you have finished creating the code for your notebook, save your work. Make sure that your notebook contains your name in the filename (e.g. Doe\_Jane\_ProjectTwo.ipynb). This will help your instructor access and grade your work easily. Download a copy of your IPYNB file and submit it to Brightspace. Refer to the Jupyter Notebook in Apporto Tutorial if you need help with these tasks.