

ql - agent - report.pdf :

Question 6 (1 point): Like the previous questions, test your Q- Learning Agent against each of the provided agents 50 times and report on the results - how many games they won, lost & drew. The other agents are: *random*, *aggressive*, *defensive*.

Against Defensive Agent:

Wins: 45 Draws: 5 Losses: 0

Against Aggressive Agent:

Wins: 50 Draws: 0 Losses: 0

Against Random Agent:

Wins: 50 Draws: 0 Losses: 0

train() Method: Implements the Q-learning algorithm over multiple episodes, updating Q-values using the Bellman equation. It uses an epsilon-greedy policy to balance exploration (random actions) and exploitation (best Q-value actions), iterating until the game reaches a terminal state.

extractPolicy() Method: Extracts the optimal policy from the Q-table by mapping each state to the action with the highest Q-value, ensuring the agent selects the best moves during gameplay.