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INFO-F-409 - LEARNING DYNAMICS

Assignment Two

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Preliminary information

Each simulation was being executed 100 times. For the visualizations:

- Red signifies the action *cooperation*
- Blue signifies the action *defection*

Graphic displays one specific game, Graph shows information of all games

1 Part One - Spatial Prisoners Dilemma

1.1 Moore Neighborhood

1.1.1 4x4

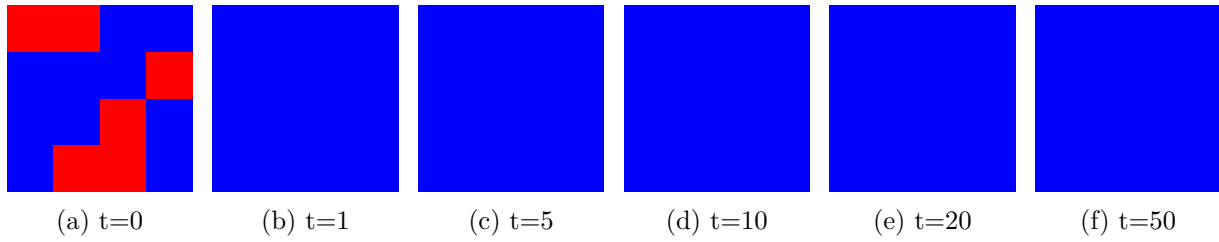
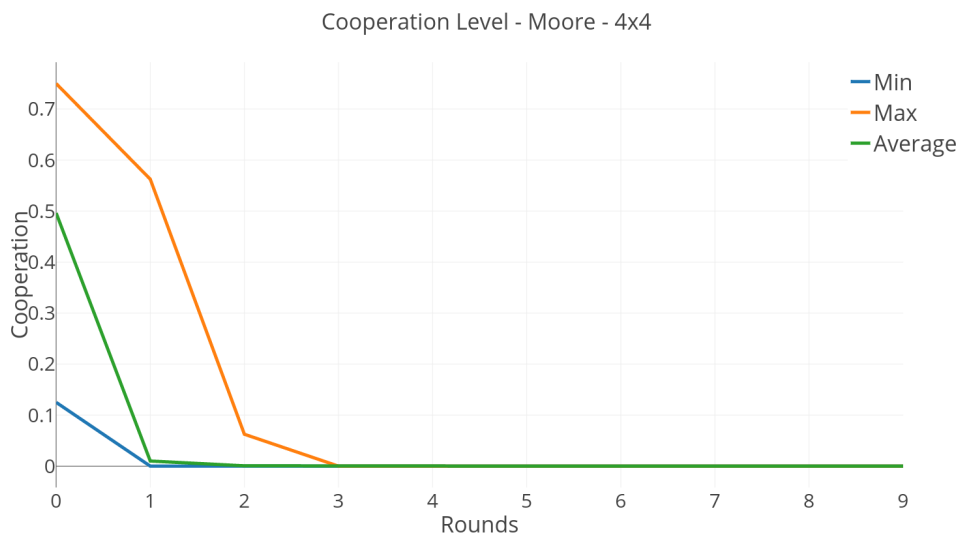
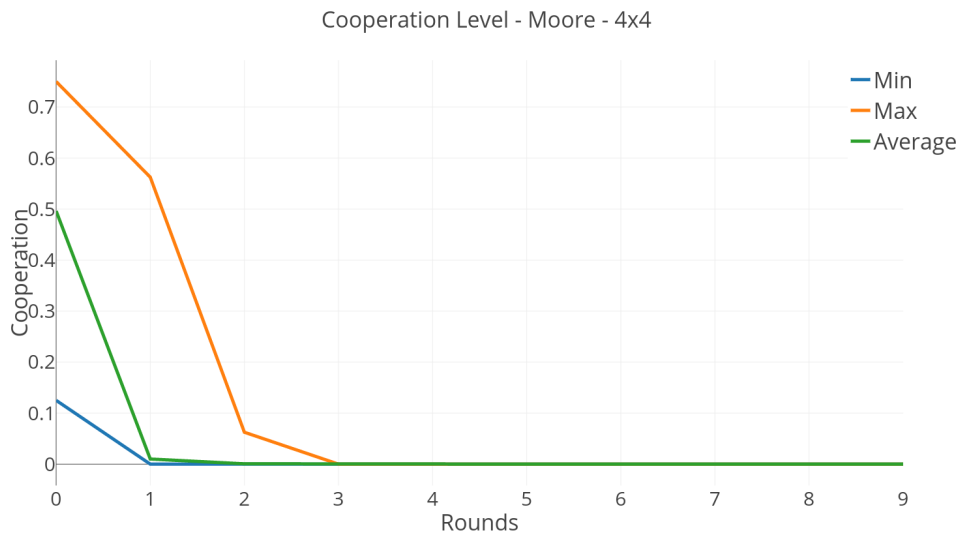


Figure 1: Prisoners Dilemma, Moore, 4x4



From simulating 100 runs we observe that all converge to *defecting*. It is however possible that it converges to a cooperative field, but it requires that we have a sub-matrix of 2x2 with only cooperators and all other players being defectors. This did obviously not happen during one of the simulations.

1.1.2 8x8

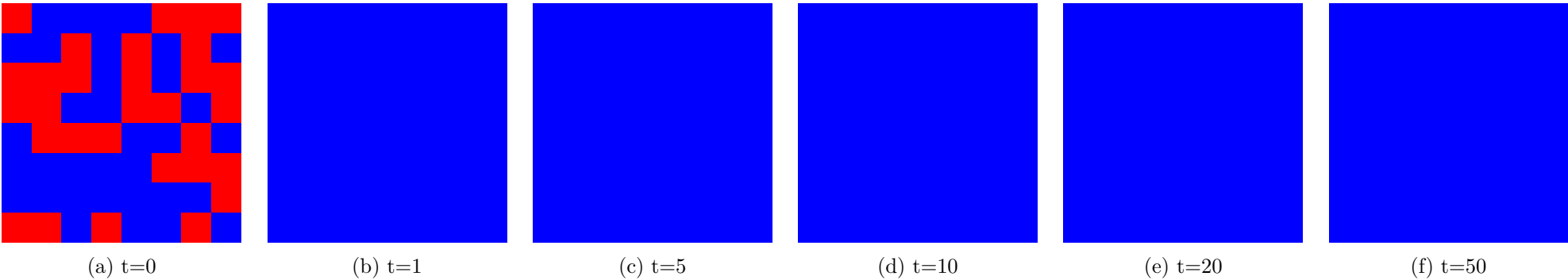
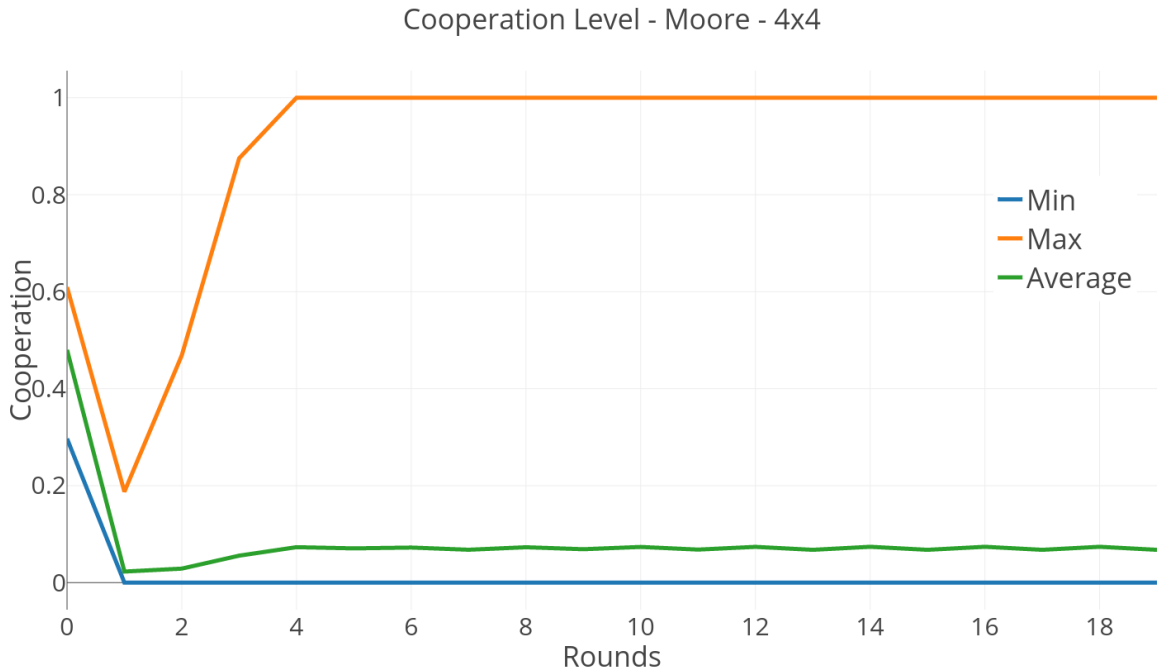


Figure 3: Prisoners Dilemma, Moore, 8x8



From simulating 100 runs we observe that all converge to *defecting*. It is however possible that it converges to a cooperative field, but it requires that we have a sub-matrix of 2x2 with only cooperators and all other players being defectors. This did obviously not happen during one of the simulations.

1.1.3 12x12

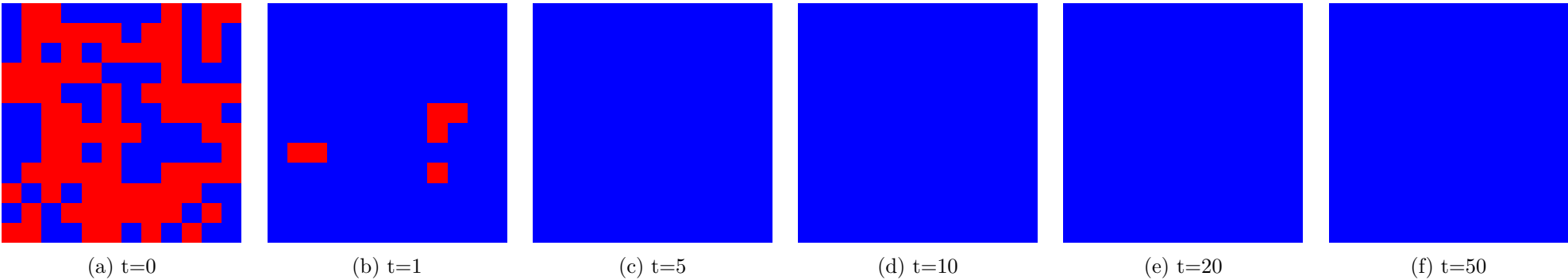


Figure 5: Prisoners Dilemma, Moore, 12x12

1.1.4 20x20

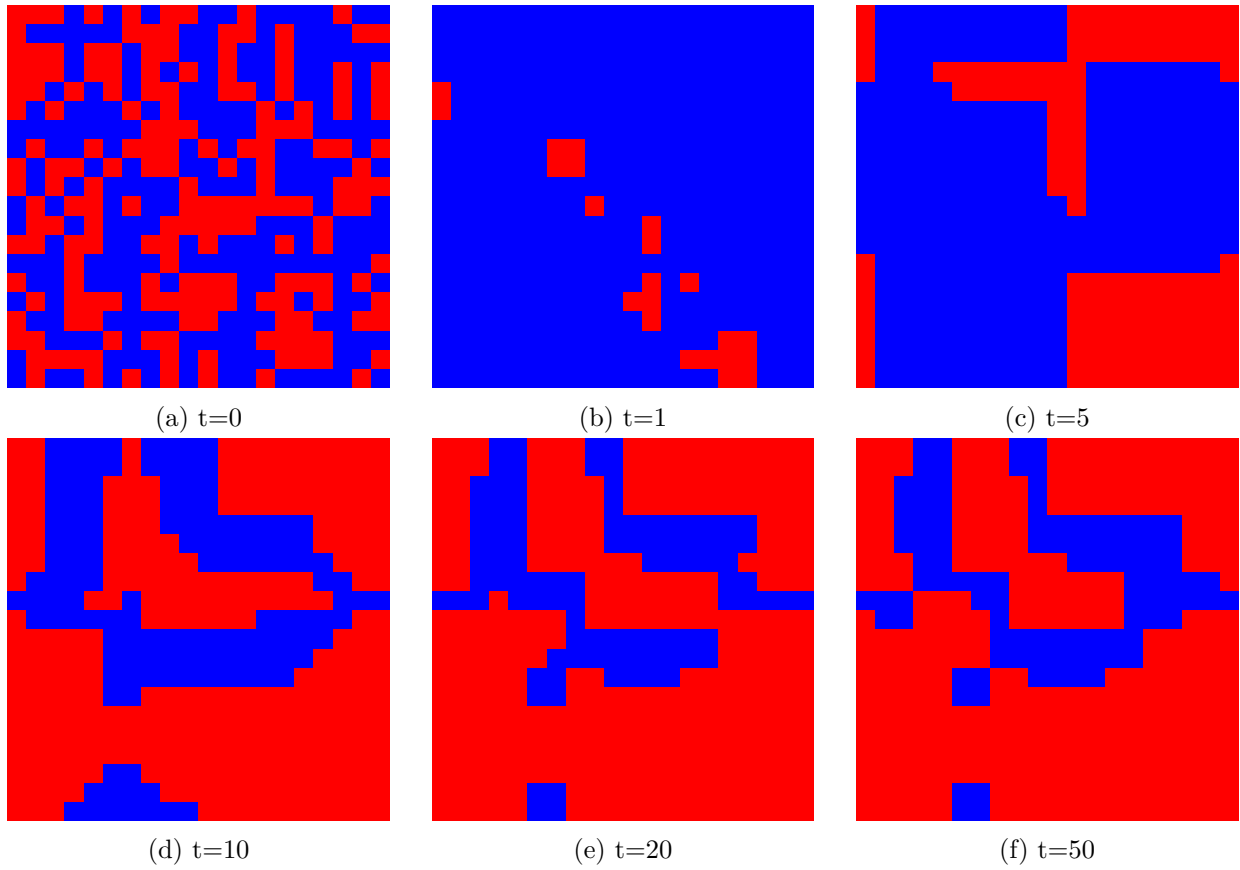


Figure 6: Prisoners Dilemma, Moore, 20x20

1.1.5 50x50

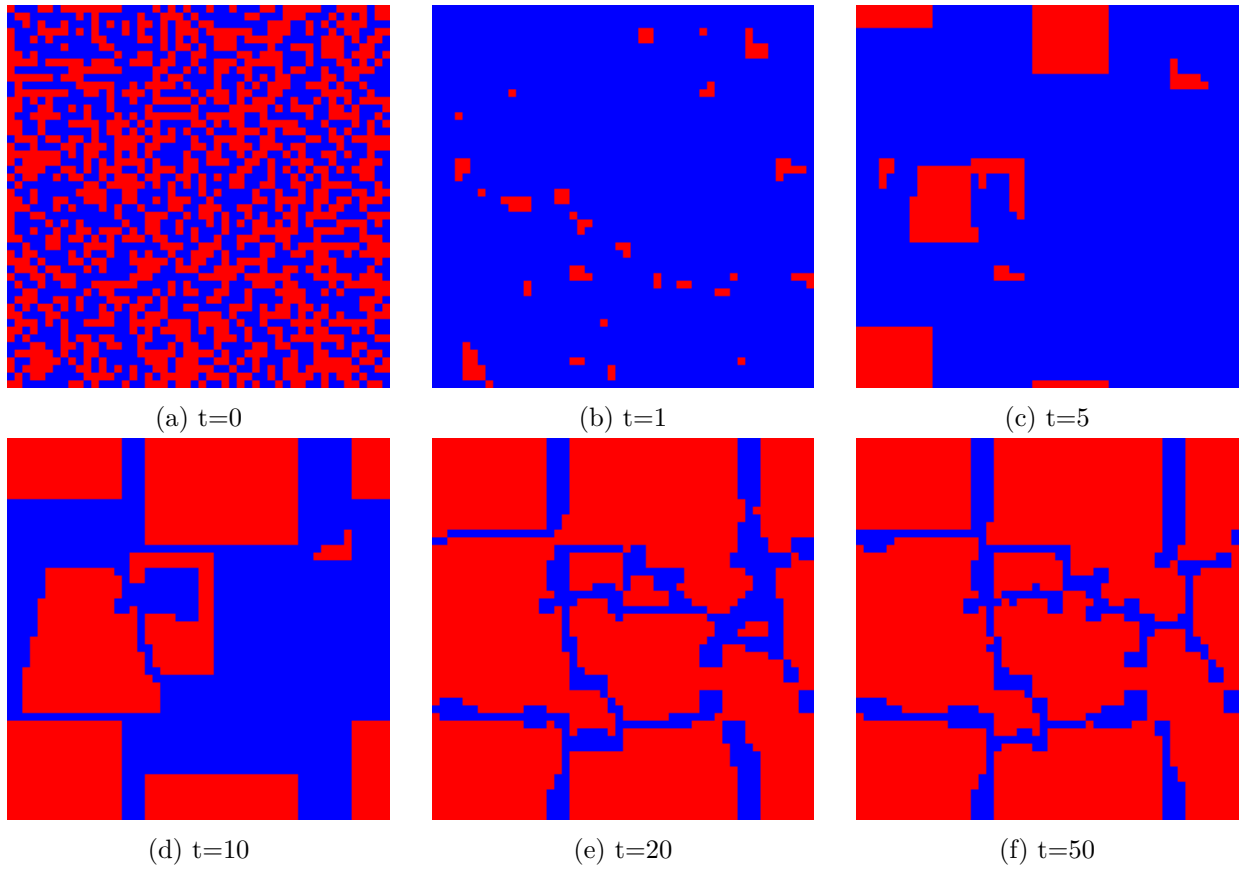


Figure 7: Prisoners Dilemma, Moore, 50x50

2 Part Two

3 Part Three