Repeated Prisoner's Dilemma with Multi-Population Genetic Algorithms

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December 10, 2015

1 Introduction

Below are multiple cases of the repeated game with varying payout structures. The standard format for all payout lists are CC, CD, DC, DD where C and D represent Cooperation or Defection. The first letter is the move of Player 1, the second letter is the move of Player 2. Payouts are listed according to each possible state the game can be in.

1.1 Payout: {1, 1}, {0, 10}, {10, 0}, {1, 1}

Player 1 Strategy:

0.173108	0.0307229	0.0385799	0.0215957
0.826892	0.969277	0.96142	0.978404

Player 2 Strategy:

0.394474	0.0428105	0.0560978	0.0299719
0.605526	0.95719	0.943902	0.970028

These strategies lead to an eigenvector of:
{0.00525789, 0.0577422, 0.0675418, 0.869458}
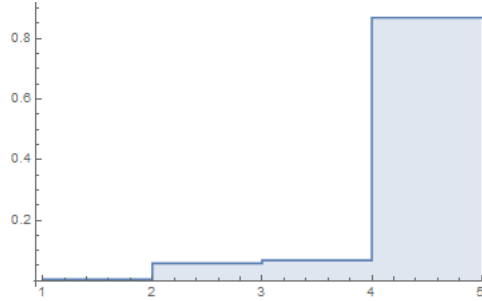
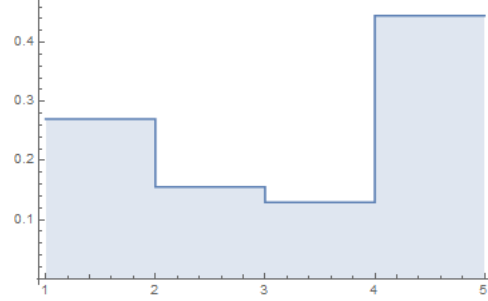## 1.2 Payout: {5, 5}, {0, 10}, {10, 0}, {1, 1}

Player 1 Strategy:

0.878337	0.153564	0.0402585	0.123226
0.121663	0.846436	0.959742	0.876774

Player 2 Strategy:

0.979694	0.24852	0.0782974	0.753991
0.0203062	0.75148	0.921703	0.246009

These strategies lead to an eigenvector of:
{0.270391, 0.155229, 0.129193, 0.445187}

1.3 Payout: {6, 6}, {0, 10}, {10, 0}, {1, 1}

Player 1 Strategy:

0.971696	0.0672063	0.0461624	0.936854
0.0283041	0.932794	0.953838	0.0631456

Player 2 Strategy:

0.975811	0.061588	0.0404697	0.93376
0.0241893	0.938412	0.95953	0.0662397

These strategies lead to an eigenvector of:
{0.844009, 0.0414005, 0.043781, 0.0708096}