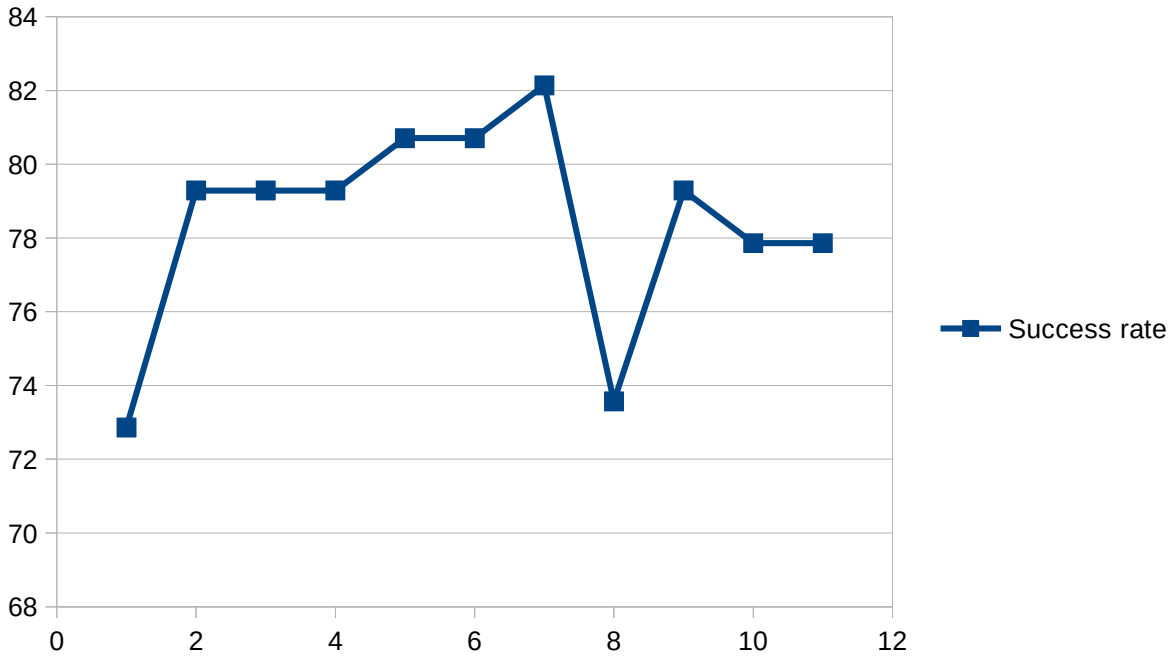
Heuristic analysis

For the game of isolation the following heuristics were tested:

Heuristics #1:
#player moves – k * #opponent moves

The graph below suggests the optimal k=7 with 82.14% success rate.



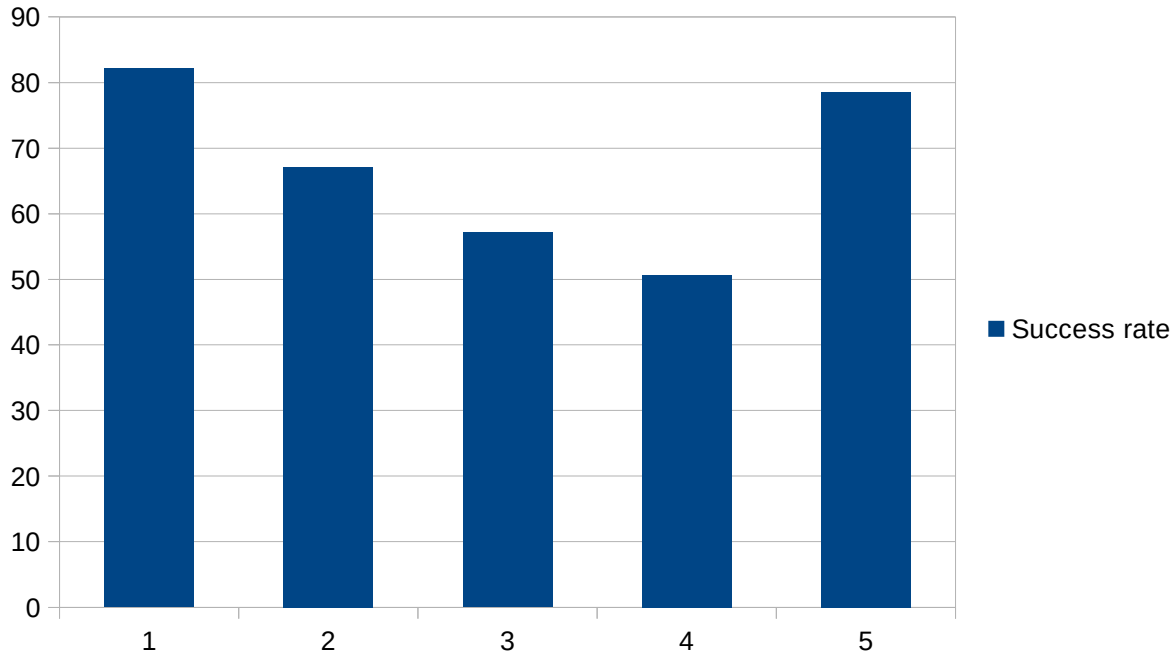
Heuristics #2:
#previous player moves - #player moves - (#previous opponent moves - #opponent moves)
The success rate of this heuristics was 67.14%

Heuristics #3:
#previous player moves / #player moves - #previous opponent moves / #opponent moves
The success rate of this heuristics was 57.14%

Heuristics #4:
(#previous player moves / #player moves) / (#previous opponent moves / #opponent moves)
The success rate of this heuristics was 50.71%

Heuristics #5:
case #player moves >= #opponent moves:
    #player moves / #opponent moves - (#previous opponent moves - #opponent moves)
else
    -(#opponent moves / #player moves) - (#previous opponent moves - #opponent moves)
The success rate of this heuristics was 75.21%

Conclusion:



As the graph shows, the best performing heuristics is #1, #player moves – 7 * #opponent moves with a success rate of 82.14%, hence it was the chosen one.