HEURISTIC ANALYSIS

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GAME INTRODUCTION

The game is an isolation game where two players place their move alternating. Player can’t move to the space previously have been used and the goal is to see who can make the opponent ‘move-less’ at respective turns. The rule is that player can only move in L shape just like the knight in the chess game where you can cross or ‘jump’ between occupied moves.

The board is 7x7 and player 1 is the computer player and player 2 is the opponent player.

CUSTOM HEURISTICS

Heuristic 1: Aggressive

This heuristic focuses on minimizing the number of moves for the opponent player by putting a gain factor on the number of moves. Hence, when the number of opponent’s moves increase during the game play, the evaluation function gives a lower score. This is called aggressive strategy because the score is more sensitive to the number of opponent’s move and directly reducing it.

Heuristic 2: Control

This heuristic focuses on the maximizing the number of moves for the computer player by putting a constant gain factor on the number of moves. Hence when the number of computer’s move increases, the evaluation function gives a higher score. This is called control strategy because the score is directly related to the computer’s move.

Heuristic 3: Combo

This heuristic focuses on the key word balance, in other words, weighted-score strategy. Instead of maximizing or minimizing one player’s score directly. This strategy focuses on seeking the best combination between the players move during the game. The ratio is calculated as shown in the following formula. As you can see that the ratio was calculated first and then inversed to get the number to be more than 1 and then subtract the opponent voves ration from it.