

Heuristic Analysis

Three heuristics (Center score, Improved score and Open Move score) were used for finding the best solution to win the isolation game. The tournament test application ran and tested the effectiveness of the three heuristics compared to an Improved Alpha Beta heuristic.

The three heuristics performed well in some instances and overall performed poorly against the Improved Alpha Beta heuristics. In most test runs, Center Score heuristic (< 50%) performed worse than the other 2 heuristics (< 60%).

Center Score heuristic's goal was to start with the center and find optimal moves around the center. An optimal move would be the square of the distance from the center to the player's current position. Improved Score heuristic's goal was to take the difference between the number moves of each player to determine the best moves in order to win the game. Open Move Score heuristic's goal was to determine the number of moves that are available and determine the best move from these available moves.

Center Score heuristic was chosen due to its more scientific method to determining the best moves. In hindsight, this heuristic did not perform well in most tests and would require additional logic to achieve optimal results.