Heuristics Analysis for Isolation GameAgent

Heuristic 1

The first heuristic maximizes the distance from the game agent to the opponent.

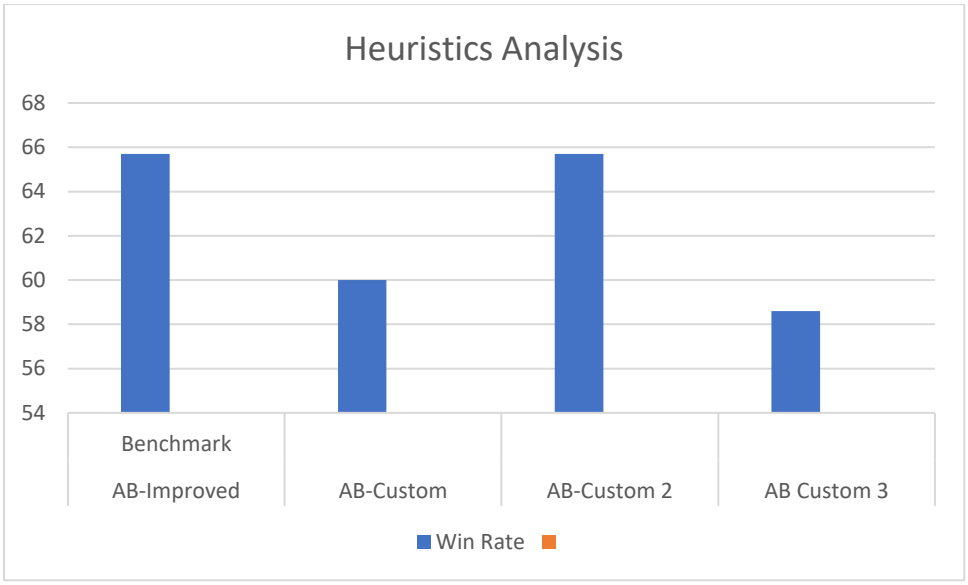
Heuristic 2

The second heuristic penalizes or rewards the move count if some moves are against the walls.

Heuristic 3

The third heuristic minimizes the distance from the game agent to the opponent.

Graphical representation of the results:



Performance analysis:

The custom heuristic No2 which counts for moves against the walls performs the best. It's on the same level as the benchmark AB-Improved. The other two heuristics which either minimize or maximize the distance to the opponent perfom slightly worse.

The main performance driver is given trough the use of Iterative Deepening. The heuristics help to improve the performance on top of the iterative deepening. There is a trade-off between a more complex, better heuristic, and a simple, fast heuristic because the simpler function allows the search to proceed deeper in the game tree, which can be more valuable than a better estimate at a shallow depth.