Heuristic Report

# Heuristic Descriptions

I will start by going through the three heuristics I created, and describing how they work from a high level.

## Custom\_Score Description

Custom\_Score can be described as an extended AB\_improved. Custom\_Score will try to place as close to the bottom right corner as possible, as long as it is ahead of the other player in terms of valid moves. If, however Custom\_Score is behind the opponent in terms of valid removes it has remaining, it will revert to AB\_Improved.

There are two parts to the rational behind this strategy. The first is that simply matching AB\_Improved would not reliably beat it, so something unique must be done for this strategy to have an edge of AB\_Improved. If the unique strategy deployed by Custom\_Score is winning, it will play this strategy with the chance to win. However, if the custom strategy deployed by Custom\_Score is losing, it will fall back to AB\_Improved to try to force a draw for the current game. It was original though this might make Custom\_Score perform the same as AB\_Improved at worst, while having the potential to out perform AB\_Improved

The second part of the rational behind the design of Custom\_Score is: to give the heuristic something incredibly simple to do while it is ahead in terms of remaining available moves. This is to preserve computation time until it is really needed near the end of the game. It is unlikely this came into play however, as the AB\_Improved isn’t very heavy weight to begin with.

## Custom\_Score\_2 Description

## Custom\_Score\_3 Description

# Heuristic Performance

## Custom\_Score Performance

## Custom\_Score\_2 Performance

## Custom\_Score\_3 Performance