HEURISTIC ANALYSIS

1. custom_score:
   The score evaluation based on a simple idea, if at a current state, an AI player have more legal moves than it's opponent player, then the score is higher. Otherwise, the score is lower. By using this evaluation strategy, the AI agent will pick move that will lead to more moves for it, and lower moves for it's opponent in the future.

2. custom_score_2:
   In this evaluation strategy, AI player will focus on moves that are near the boundary. Because, if move near the center, the opponent player will easily isolate the AI player by taking all moves around the AI player. This evaluation will also take into account the number of legal moves that AI player can take. The more legal moves and further from the center, the higher the score.

3. custom_score_3:
   This evaluation strategy will tell the AI player to move as far from the opponent player as possible. The nearer from the opponent, the higher chance of being isolated by the opponent. This evaluation calculate the distance of AI player and opponent player as a score.

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                         Playing Matches
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Match #   Opponent    AB_Improved   AB_Custom   AB_Custom_2  AB_Custom_3
                      Won | Lost   Won | Lost   Won | Lost   Won | Lost
   1       Random      19  |   1    17  |   3    18  |   2    18  |   2
   2       MM_Open     14  |   6    16  |   4    14  |   6    16  |   4
   3      MM_Center    16  |   4    16  |   4    17  |   3    17  |   3
   4     MM_Improved   16  |   4    13  |   7    11  |   9    14  |   6
   5       AB_Open     11  |   9    13  |   7     6  |  14    14  |   6
   6      AB_Center    10  |  10    11  |   9    14  |   6    11  |   9
   7     AB_Improved   11  |   9     9  |  11    10  |  10    10  |  10
--------------------------------------------------------------------------
          Win Rate:      69.3%        67.9%        64.3%        71.4%
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Based on the performance table above, AB_Custom_3 achieve higher win rate (71.4%) than the ID_Improved agent (69.3%). The custom_score_3 gain higher performance than all of others score by just leaving the opponent as far as possible. Simple strategy but very good performance achieved. I'll keep exploring more on this simple evaluation strategy.