```
#                     ************************
#                          Playing Matches
#                     ************************
#
#  Match #    Opponent    AB_Improved    AB_Custom    AB_Custom_2    AB_Custom_3
#                         Won | Lost    Won | Lost   Won | Lost    Won | Lost
#     1        Random      7  |  3       8  |  2      9  |  1       9  |  1
#     2        MM_Open     4  |  6       8  |  2      3  |  7       6  |  4
#     3        MM_Center   5  |  5       7  |  3      6  |  4       8  |  2
#     4        MM_Improved 2  |  8       5  |  5      6  |  4       4  |  6
#     5        AB_Open     5  |  5       5  |  5      4  |  6       3  |  7
#     6        AB_Center   6  |  4       6  |  4      5  |  5       3  |  7
#     7        AB_Improved 6  |  4       5  |  5      4  |  6       5  |  5
# ----------------------------------------------------------------------------
#            Win Rate:      50.0%         62.9%        52.9%         54.3%
```

## AB_Custom

In addition to maximizing own moves while minimizing opponent's moves, AB_Custom prefers moves that result in more overlapping moves because it gives us a higher chance to block opponent's moves compared to AB_Improved.

## AB_Custom_2

AB_Custom_2 is similar to the AB_Improved but we amplify the effect of the difference between the number of player's and opponent's moves. By taking a square between the difference allow us to distinguish between 2 vs 1 and 5 vs 4. AB_Custom_2 will prefer moves that generate more opportunities for the player and hence it performed better than AB_Improved.

## AB_Custom_3

AB_Custom_3 performed better than AB_Improved because it became more aggressive as we progress in the game.

# CONCLUSION

AB_Improved had a win rate of 50.0% while the best performing evaluation function, AB_Custom, won 62.9% of the time. The other two AB_Custom_2 and AB_Customer_3 won 52.9% and 54.3%.

AB_Custom is recommended because:
1. it achieved the best win rate of 62.9%
2. it has minimum memory space requirement as it does not require information from previous moves besides the global state of which spot is taken.

3. it is easy to implement
4. the game of isolation is to stop opponent from moving so going where the overlapping moves are will increase the chance of blocking.