```
                    *************************
                         Playing Matches
                    *************************

Match #    Opponent    AB_Improved    AB_Custom    AB_Custom_2    AB_Custom_3
                       Won   Lost    Won   Lost    Won   Lost    Won   Lost
   1        Random      9     1      8     2       9     1       8     2
   2        MM_Open     5     5      7     3       9     1       7     3
   3        MM_Center   8     2      7     3       8     2       9     1
   4        MM_Improved 5     5      6     4       6     4       5     5
   5        AB_Open     6     4      3     7       5     5       6     4
   6        AB_Center   6     4      6     4       5     5       5     5
   7        AB_Improved 4     6      5     5       5     5       5     5
------------------------------------------------------------------------------
          Win Rate:      61.4%         60.0%         67.1%         64.3%

Your ID search forfeited 82.0 games while there were still legal moves available
to play.
```

My code still has some bug, so there are 82 forfeited games even there were legal moves.

My custom functions and analysis:

1 The first custom function is the square of the difference of player and opponent possible move. It should be same compared to no square version.

2 The second function is calculating the distance of the player's position to the center of the board. As discussed in lectures, player who occupy the center of the board usually win.

3 The third function is the sum of the first two function. I expect it may be learn form both perspective and achieve better result

From result, we can see the second function performs better than others, which is consistent with lectures. The third one somehow compromises the first and the second results.