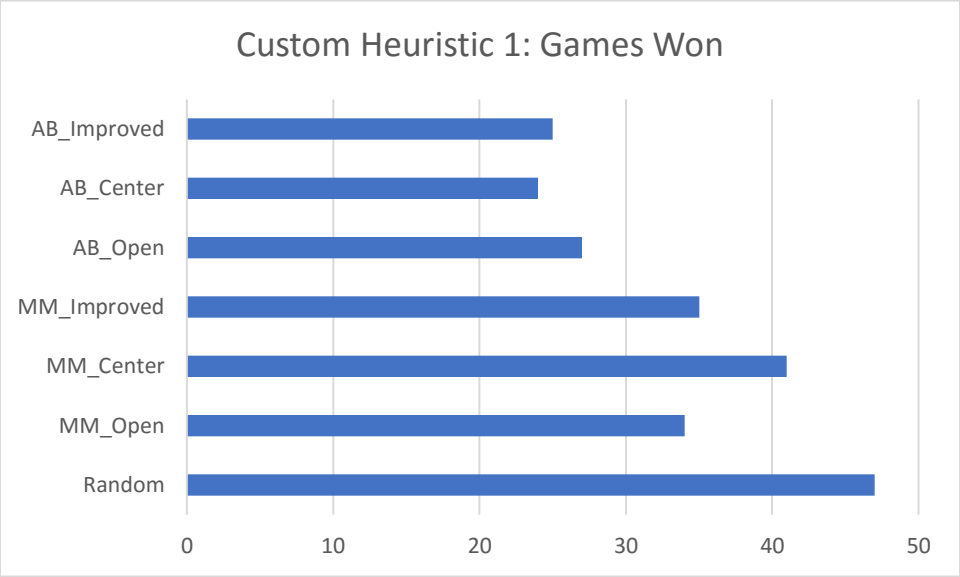
Heuristic Analysis for the game of Isolation

Custom Heuristic 1:

```
if own_moves + opp_moves == 0:
    return float("inf")
else:
    return float(own_moves / (own_moves + opp_moves))
```

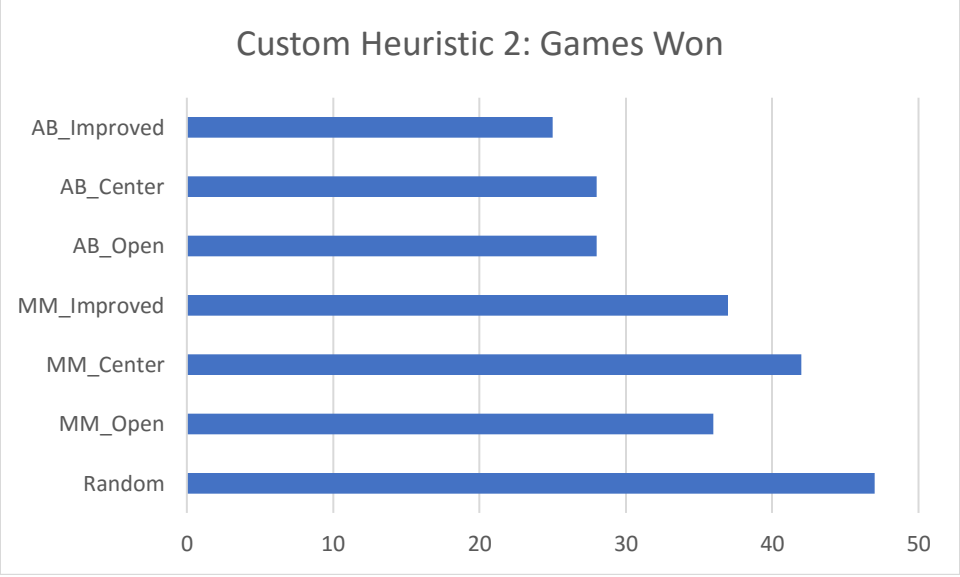
This heuristic returns the fraction of the number of player's moves over total number of moves on current board. It outperforms Random, does well against MMs, and okayish against ABs.



Custom Heuristic 2:

```
return float(own_moves - opp_moves)
```

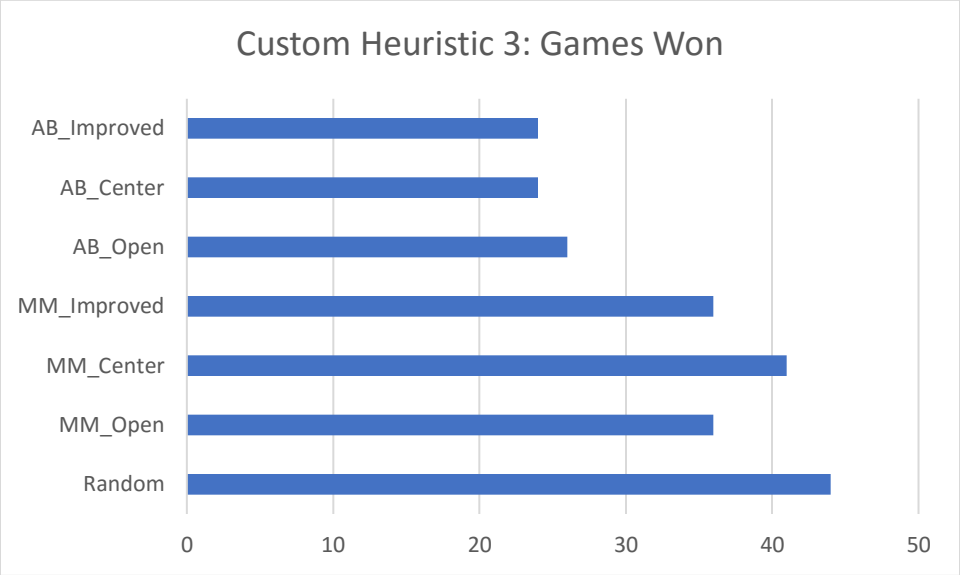
The simplest heuristic among the three customs. Similar performance profile as in the case of Custom Heuristic 1, it does a little better against ABs.



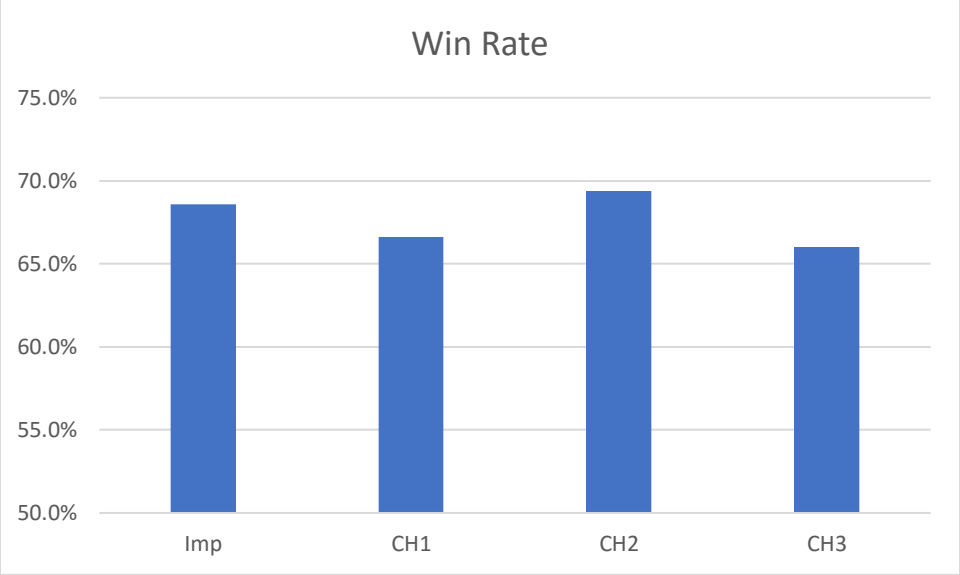
Custom Heuristic 3:

```
if opp_moves == 0:
    return float("inf")
else:
    return float(own_moves / opp_moves)
```

Modified version of Custom Heuristic 1, which only calculates the fraction of the number of player's moves against that of the opponent's. Overall, an inferior CH1.



Overall, Custom Heuristic 2 is recommended. It is simple to implement, that makes it fast. It also achieves close to 70% win rate on average against its opponents.



Raw data (games = 50)

Heuristic	I		C1		C2		C3	
Opponent	W	L	W	L	W	L	W	L
Random	46	4	47	3	47	3	44	6
MM_Open	39	11	34	16	36	14	36	14
MM_Center	40	10	41	9	42	8	41	9
MM_Improved	39	11	35	15	37	13	36	14
AB_Open	25	25	27	23	28	22	26	24
AB_Center	26	24	24	26	28	22	24	26
AB_Improved	25	25	25	25	25	25	24	26
Win Rate	68.6%		66.6%		69.4%		66.0%	