Introduction

Three custom heuristic functions were implemented:-
1. custom_score - It returns the euclidean distance between the opponent and the player.
2. custom_score_2 - It returns the square of euclidean distance between the opponent and the player.
3. custom_score_3 - It subtracts the number of moves available from 8(i.e max number of legal moves). Then, returns the negative of the obtained result.

These heuristic functions were then matched against other opponents(agents) using tournament.py script. 70 matches were played each round.

Data

Match #	Opponent	AB_Custom		AB_Custom_2		AB_Custom_3	
		Won	Lost	Won	Lost	Won	Lost
1	Random	66	4	65	5	60	10
2	MM_Open	51	19	47	23	55	15
3	MM_Center	63	7	62	8	62	8
4	MM_Improved	58	12	53	17	53	17
5	AB_Open	35	35	42	28	35	35
6	AB_Center	40	30	42	28	37	33
7	AB_Improved	35	35	39	31	38	32

Results

Agent	Won	Lost	Win Rate(%)
AB_Custom	348	142	71.0
AB_Custom_2	350	140	71.4
AB_Custom_3	340	150	69.4

Conclusion

AB_Custom_2(or custom_score_2) is the recommended agent because:-
- It has the best win rate of 55.7% against AB_Improved.
- It loses less than 50% of the time.
- It has the best overall win rate of 71.4%.