REPORT PROJECT 3: ADVERSARIAL SEARCH

Playing Matches (round = 20, depth = 3, fair_match = True)					
Times (ms)	**Match**	**Opponent**	**My_custom_player**		**Win rate(%)**
			Won	**Lost**	
150	1	RANDOM	36	4	90
	2	GREEDY	34	6	85
	3	MINIMAX	26	14	65
	4	SELF	20	20	55
200	1	RANDOM	38	2	95
	2	GREEDY	35	5	87.5
	3	MINIMAX	28	12	70
	4	SELF	20	20	50
300	1	RANDOM	37	3	92.5
	2	GREEDY	35	2	87.5
	3	MINIMAX	29	11	72.5
	4	SELF	20	20	50
1000	1	RANDOM	37	3	92.5
	2	GREEDY	36	4	90
	3	MINIMAX	27	13	67.5
	4	SELF	50	50	50
Table analysis based on time limit					

Playing Matches(round = 20, time = 150ms, fair_match = True)					
Depth	**Match**	**Opponent**	**My_custom_player**		**Win rate(%)**
			Won	**Lost**	
1	1	RANDOM	26	14	65
	2	GREEDY	20	20	50
	3	MINIMAX	11	29	27
	4	SELF	20	20	50
2	1	RANDOM	31	9	77.5
	2	GREEDY	24	16	60
	3	MINIMAX	18	22	45
	4	SELF	20	20	50
3	1	RANDOM	36	4	90
	2	GREEDY	34	6	85
	3	MINIMAX	26	14	65
	4	SELF	20	20	55
7	1	RANDOM	9	31	22.5
	2	GREEDY	6	34	15
	3	MINIMAX	7	33	17.5
	4	SELF	16	24	40
Table analysis based on depth					

Question & answer:

- **What features of the game does your heuristic incorporate?**
  => The features incorporate: depth and time
- **Why do you think those features matter in evaluating states during search?**
  => It helps find fast best move, has the highest win ratio
- **Analyze the search depth your agent achieves using your custom heuristic?**
  => Depth affects the results of the best move. Search algorithm to select the appropriate depth. If the depth is too small or the depth is too large then the result is not good
- **Does search speed matter more or less than accuracy to the performance of your heuristic?**
  => Search speed and accuracy are equally important.