

1. What heuristic did you use? Why?

- For the evaluation function, I count the score of the current player, and subtract the score of the other player from it. I check vertical, horizontal, and two diagonals to see if there is a valid sequence given a certain length. These lengths are two, three, and four, and I give different weights for each of these values so that the larger valid lengths get better scores.

2. Describe how your algorithm performs given different time constraints. How much of the tree can you explore given 5 seconds per turn? 10 seconds? 3 seconds?

- It might not be correct, but I counted how many times the min and max value functions are called per turn. It was 2040 times for 3 seconds, 3621 times for 5 seconds, and 7390 times for 10 seconds.

3. Can you beat your algorithm? What is your strategy?

- I played with the AI for about 5 times, but I could only win one time. This could be because this is my first time playing this game in my life, but I tried to beat the AI by playing defensively and offensively at the same time. I tried to use diagonal sequences because that would be something that humans might miss, but the AI defended really well I think.

4. If your algorithm plays itself, does the player that goes first do better or worse in general? Share some of the results.

- For my experiment, the second AI won most of the time. So I think that the player goes second do better in general in this scenario.