

Comparing MiniMax vs. MiniMax Alpha-Beta:

The algorithm for minimax is definitely slower and less accurate in picking its next move. For the minimax alpha beta pruning, the nanoseconds are staying around 250000 while the minimax algorithm without the alpha beta pruning is at a whopping 500000+ nanoseconds. Based on playing both of them, I noticed that the minimax with alpha beta pruning was definitely better at evading moves than the regular minimax. This also could be something with my utility function, but I am not sure if that is the case.

Comparing Dimensions:

The algorithm did not work very well and took longer to play the next state because it was a bigger board. I think with just changing the dimensions itself, it did not work that well. I think that it was clearly getting confused with all of the possibilities. This may be because my connected algorithms only go through the rows and columns that are set already. It is not a dynamic board but a static one so it keeps the same rows and columns. This is why it definitely could not adapt to the new board itself.