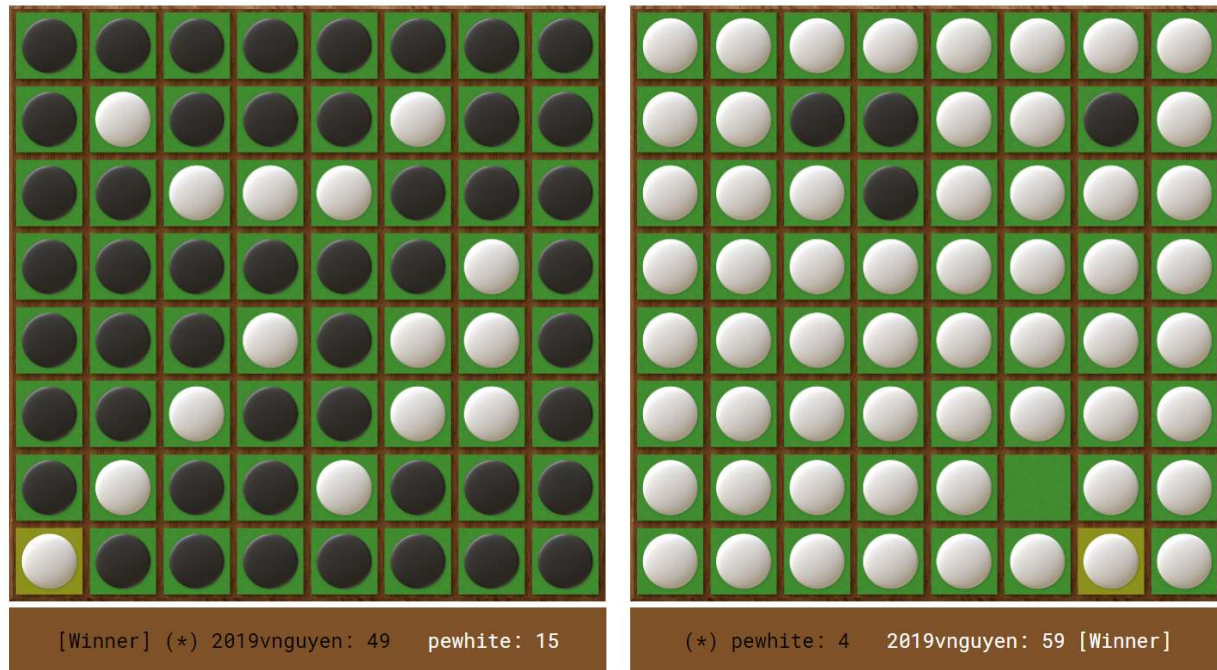


### Othello Writeup



For my othello strategy, I used an alpha beta search and weighted scoring function. My scoring function mainly considers mobility with higher number of valid moves resulting in a better score. This modification prevents my AI into being forced to make unfavorable moves. Considering mobility also increases the possibility of having multiple moves in a row. To calculate my mobility score, I multiplied the number of valid moves by 50. If the player was white or min, the mobility score was negated.

When testing the mobility score, my AI would occasionally lose corners to the opponent that it could have taken in a previous move. To prevent this, I increased the weighted score of each corner from 120 to 500. Additionally, my AI will take the corner before the alpha beta search if both players can play that corner. In order to improve the effectiveness of the corners, I modified my scoring function to take the absolute value of scores for squares adjacent to corners if that particular corner is occupied. The function still takes the absolute value if the opponent occupies the corner. This reduces the effectiveness of the corner and increases the possibility of taking a neighboring corner, especially if the opponent controls the edges but not the pieces directly adjacent to the corner.

My scoring function also checks for frontiers, pieces adjacent to an empty square. Frontiers have a higher possibility of being taken by the opponent since new moves can only be placed in empty squares. Thus, more frontiers results in a worse score (lower for black and higher for white). My function multiplies the number of frontiers by 15, so mobility is still prioritized.