

Important Functions

terminalCheck : Checks rows, columns and diagonals to see weather they have same sign , if true , ends game with a winning status. If not, and we have no empty index , ends game with Tie or Draw status.

gameOver : States the result of the game when the status is ended.

makeAMove : Marks the chosen index whenever the clickWorks function is true and checks weather it's terminal state.

advanceMove : When we choose an index to fill, the AI fills another field immediately.

playerSelect : Changes the sign.(The player's default sign is X).

advanceTo : Notify the player's turn when the current state belongs to AI.

score : calculates score. 10-moveCount for X winning, -10 + moveCount when O wins and 0 for draw situation

mark : Fills the index with chosen sign.

Algorithm

Alpha-Beta-Pruning : minimax is a function for Alpha-Beta Pruning algorithm. This checks the children of a node; if that node is a maximizer(X) the next chosen action must be the node with the greatest value and vice versa for a minimizer(O). The alpha beta pruning happens when alpha is greater than beta, if it happens in a maximizer, beta-pruning will happen and beta is being returned and also for a minimizer, alpha-pruning will take place and alpha will be returned. In both situations, expanding other children of that node won't happen.