

CSL 333 : Artificial Intelligence

Assignment 3

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Modelled the board as a graph with 4 boolean variables for each node denoting possible movement directions.

Generated a list of possible moves and utilized an evaluation function to implement Mini-Max Search in conjunction with Alpha-Beta pruning and Depth-Cutoff to choose the best possible move. Node-ordering in order of evaluation function was further implemented.

Evaluation function increases with increase in the shortest distance of opponent to his goal and number of moves required by opponent to move one row towards its goal. And it decreases with increase in shortest distance of player to his goal and increase in number of moves required by player to get to next row towards the goal.

Tested for various depths and used meta-reasoning by starting off initially with better moves and reducing the search depth with decreasing game time.

Possible Scope for Improvement: Aggressive pruning by node-ordering in order of evaluation function may provide significant improvement.