CS 6511 – AI – Spring 2024

Project 3 : Generalized Tic Tac Toe

THE GEORGE WASHINGTON UNIVERSITY
WASHINGTON DC

Due Date 1: March 26th, 11:59 PM ET for written submission.
Due Date 2: April 16th, 11:59 PM ET for games & score. (Game scores count from March 19)
Group Project.

Generalized Tic Tac Toe n*n

A generalized Tic Tac Toe is an n*n board game where each player chooses one of the parts X or O, and then plays in an alternate order to place his choice on the board. A player wins when they are able to place m consecutive symbols (0s or Xs) in a contiguous sequence (row, column or diagonal). The game may end in a draw when no one wins.

Board Size (n) and Target (m)

Given m and n, the agent can play against another agent in an n*n board and tries to place m parts in a row to win.

What to Submit

Submit a 1 pager PDF per team by due date 1, via Blackboard. The writeup should explain: (i) your evaluation (heuristic) function, (ii) any key points that you want to make regarding your minimax/adversarial search algorithm, and (iii) any tricks that you use to improve the performance of your search algorithm.
You will play games against other teams via an API, and the score will be automatically recorded.

Use of API

We will play and record the games interactively with each other. Details of the API will be shared via Slack and discussed in class.

Grading Rubric

• **5 points:** For the written submission by Due Date 1
• **2 points:** For meeting the "games" quorum, that is, >= 7 games, against >= 2 teams, completed by Due Date 2
• **Remaining 3 points:** On the basis of actual games score. The game scores will be periodically wiped away until March 19th, so do not worry about any scores until then. The games do count against quorum, so play early, play often, and don't worry about winning or losing at least until then.