

Final Project Proposal

Tic-tac-toe in the Terminal

Woo.java will print an empty tic-tac-toe board in the terminal with each run, and start the game, which will run until the game ends with a tie or a win.

The terminal will accept a row and a column input as a coordinate for where to put the user's "x".

We will implement a basic AI, where the computer will put an "o" next to an "x". The AI will check for instances of 2 "x"s in one row, column or diagonal and block. It will also check for instances of 2 "o"s in a row, column or diagonal and win.

We plan to use 2D arrays to represent a tic-tac-toe board and we will need to compare elements of the list horizontally, vertically, and hardcode situations where there is a diagonal of 3 matching "o"s or "x"s.

We will implement Keyboard.java to make it easier to accept and read terminal inputs.

Instance Variables:

- **String[][] Board** is the 2D array which houses the "o"s and "x"s and is the tic tac toe board

Methods include:

- **toString()** will return the string representation of the 2D array
- **startGame()** which starts a new session
- **isWin()** which checks horizontally or vertically for 3-in-a-row
- **isWinDiag()** which checks to see if either diagonal has 3-in-a-row
- **input()** which places an x or an o in the tic-tac-toe board
- **isEmpty()** which checks to see if a spot in the tic-tac-toe board is occupied
- **checkTwo()** which checks to see if there is a scenario with 2 "x"s or 2 "o"s in a column or row or diagonal