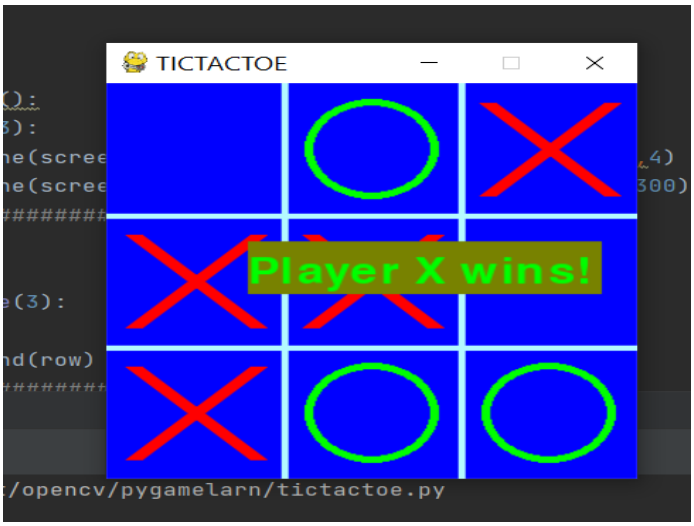
ARK TASK-5

PROBLEM STATMENT:

Part 1: You have to write an agent to play the 2-D Tic-Tac-Toe game using minimax algorithm. Minimax algorithm basically is just an exhaustive search of your game space. You'll be using the gym-tictactoe environment. A skeleton for player-vs-player agent is provided at here.

RELATED WORK AND APPROACH:

The instruction was clear to use Minimax Algorithm. Initially I was not able to understand the Minimax Algorithm.So I decided to code a normal TICTACTOE game in python.Player vs Player.I have included this file also in the submission folder.The GUI looks likes this:



After coding the normal 2D TicTacToe,I used the Minimax algorithm. Minimax is a kind of backtracking algorithm that is used in decision making and game theory to find the optimal move for a player in a two player game like tic tac toe.

There are two players.One who is trying to maximize his score and other who is trying to minimize.Hence the name Minimax().

Links for minimax:

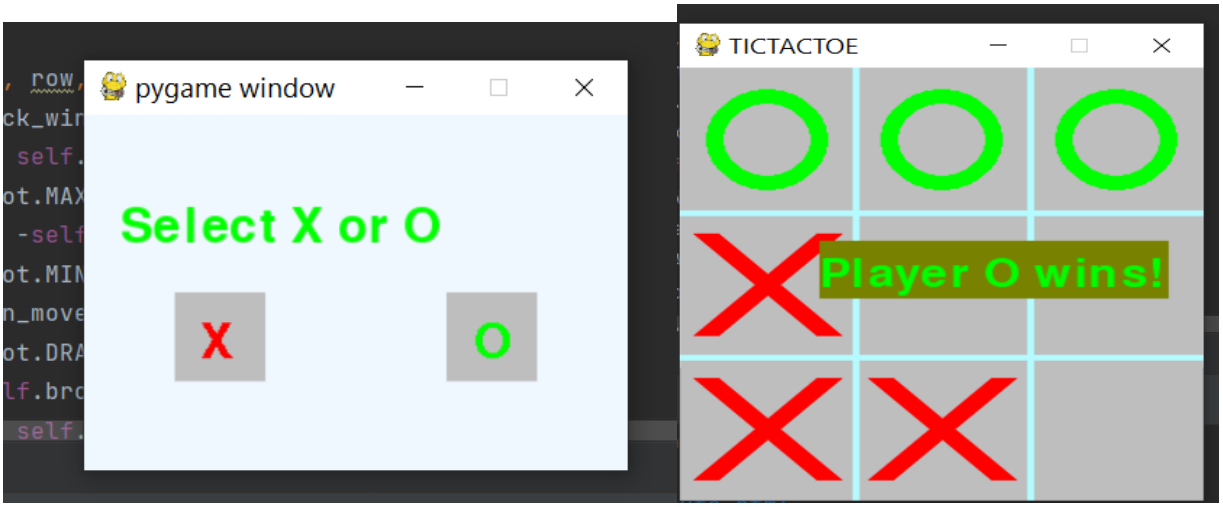
MINIMAX

YT VIDEO

In my code I have created a GUI using pygame which lets the user choose what he wants O or X.and X always plays first.

RESULT:

This is how my GUI looks!



FUTURE WORK:

Will go through Minimax for other games as well.Also I will try to read bout Genetic Algorithms and stuff which I couldn't do in the task.