

## Lab Assignment: Introduction to engineering

### (Topics in Artificial Intelligence)

**Problem Statement:** In the class, we had discussed about some strategies of Reinforcement Learning and game designing, it is now time to design your first full game AI. For e.g. it could be a two player game like board game Reversi, tic-tac-toe. You can use Python as the programming language/C++/C. In case you are using Python, you may prefer to use and install [tkinter](#), which is the de-facto standard Python GUI toolkit. There could be two player (human vs computer), you will be human and there can be a *very bad AI* that chooses one of the possible moves that are legal from each position.

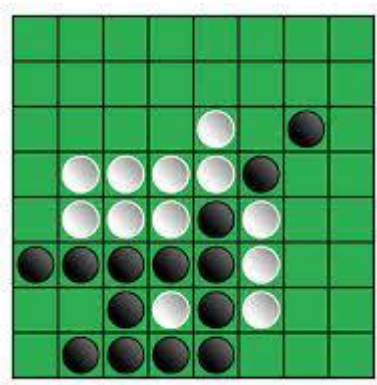


Figure 1 Othello board game

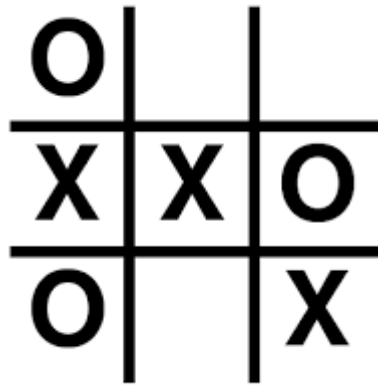


Figure 2 Tic Tac Toe

Think on what is the maximum number of search spaces to get the right moves. Start by implementing a *greedyAI()* algorithm that goes through each moves it can do in the current state and perform the move that would give the highest score immediately. Read about [minmax algorithm](#), try to implement a *smarterAI()* that employs the min-max algorithm to rank the score of each possible move it can do.