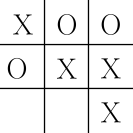
**CENG 317 – Artificial Intelligence**

**Project – Due Date, Report submission:15.01.2016, 06:30 pm**

Consider a classical tic-tac-toe game on a three-by-three board, where the winner places three marks in a row, horizontally, vertically or diagonally. One player plays X and the other O until one player wins, as the X player has won in the following game:



If the board fills up with neither player getting three in a row, the game is a draw. Because a skilled player can play so as never to lose, let us assume that

* We are playing against an imperfect player whose play is sometimes incorrect and allows us to win.
* Draws and losses are equally bad for us

Design a player that will find imperfections in the opponent’s play and learn to maximize chances of winning. Your player then must be able to play with any opponent.

**Requirements:**

You will work in groups. Four or five people are fine in a group.

You will demonstrate your project to me which we will schedule later. In your demonstration you will describe and show how you handle learning as well as will prove ability of your agent to play. One for each group, you have to send a report including all details of your work, such as problem formulation, the methods you used, results, stats, evaluation, results and discussion. Supply also your code separately.

Your agents will be evaluated in a tournament. In other words, groups will compete each other and the agents you developed will be ranked based on the result your group obtained from the tournament. If one’s agent win against another’s agent then it will play again with another winner of the same round, and so on.