**Lab 1 Instructions**

Since the first lab has come before the development of any theory / algorithm / technique, so you will be solving a simple problem that does not require you to know any topic of AI. You just need to use your coding skills and common sense. **It is a modified version of the assignment that was given yesterday.** The problem is as follows:

Recall the tic-tac-toe game that you used to play as a child. Basically, it is a two-player game. We have a 3x3 grid. The first player puts an ‘x’ on one of the positions. The second player puts an ‘o’ on some other position. Each player puts her / his symbol alternately. The goal is to have three consecutive symbols of the same type.

Represent the playing area as a 3x3 matrix. Each element can be a blank, an ‘x’, or an ‘o’. Initially, all matrix elements are blank. As the game proceeds the matrix elements change to either ‘x’ or ‘o’. Now, your task for this lab is to decide the “best” move. Assume that you have to decide for ‘x’. To determine best you can use the following rules in order:

1. If a row / column / diagonal has two ‘x’’s and the third position is a blank, then place the ‘x’ on the blank.
2. If a row / column / diagonal has two ‘o’’s and the third position is a blank, then place the ‘x’ on the blank.
3. If a row / column / diagonal has one ‘x’ and the other two positions are blank, then place the ‘x’ on one of the blanks.
4. If a row / column / diagonal has one ‘o’ and the other positions are blanks, then place the ‘x’ on one of the blanks.
5. Place the ‘x’ on any random blank

Preserve the code because we will use it in a later lab exercise.

**Important Note: Each lab will be graded.**