

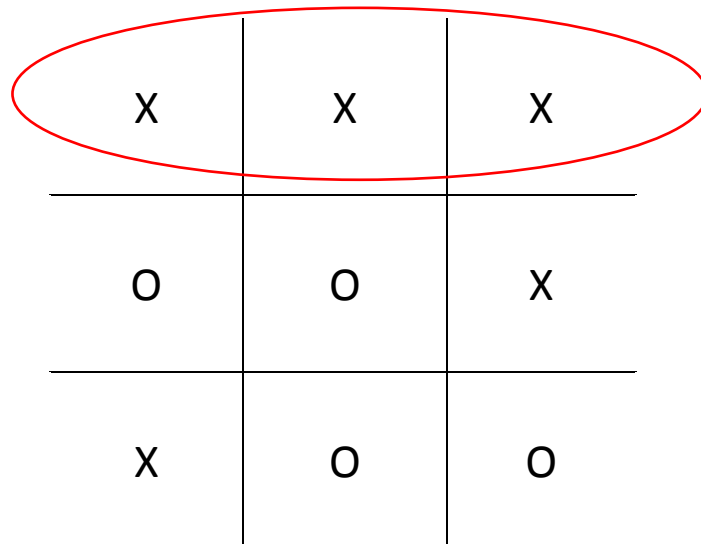
HUMAN AGAINST MACHINE

Noughts and Crosses

Rules of the Game:

Two players, one allocated a nought and the other a cross, take it in turns to place their symbol in a grid of 9 boxes laid out in 3 rows of 3. The winner is the person who creates a straight line of three of their symbols in a row. This line may be vertical, horizontal or diagonal. The game may also end in a tie, if no player manages to get three in a row.

Example:



X	X	X
O	O	X
X	O	O

Your tasks:

5 points: Develop and describe an algorithm that enables the second player to move to never lose the game (ties still possible).

3 points: Develop and describe an algorithm that enables the first player to move to never lose the game (ties still possible).

2 points: Identify which squares on the grid provide the most opportunities to create a straight line of three symbols.

Hint available: Deduct 2 points if requested.