Initial State:

The initial state of this program is a tic tac toe board with some arrangement of blanks, X's and O's. It is read in at the terminal prompt as a string. Lower case 'b' is a blank, uppercase 'X' and 'O' are the two players moves thus far. Each board square value must be separated by a space in the input per the write up for this assignment. Sample input: "b b X X b b O O b"

Algorithm:

This program uses the min/max algorithm to create a list of best moves for player X. It is assumed that it is X's turn for each run of the program as specified in the write up for the assignment.

Each possible move for X from the initial state is expanded until either X wins, X loses or the game ends in a tie. Those values are gained by recursive calls to methods Max and Min. Each method creates a list of possible moves from the state passed to it. Each of those states is given a min/max value. If there is a path to a win in the set of possible moves, that value is returned back to the node Min or Max was called on.

The result of the program is a list of moves for X that will lead to a win or a tie. If there is not a move that results in either a win or a tie, the list of moves will be empty.