ASSIGNMENT #5 SOLUTION (Part One)

```
import java.io.*;                                                    // Need this for BufferedReader
class TicTacToe
 {
        public static void main(String[] args)
          {
                new InputStreamReader(System.in);
                BufferedReader theKeyboard = new BufferedReader(new InputStreamReader(System.in));

                Board Game = new Board();
                System.out.println("TicTacToe Game starts. Please enter 1-9 to make your choice.");

                int [] move = new int [2];
                char winner;
                int getTurn = 1;                                     // The initialization of turns
                System.out.println(Game);                            // print the board for first time

                while(true)                                          // loop only breaks when X or O wins, or a cat's game
                  {
                        if (getTurn%2 != 0)                          // Player X's turn
                          {
                                System.out.print("Player X: Enter 1-9 to make choice!");
                                while(true)
```

```
        {
            move = getMove();
            if (!Game.elementMarked(move[0], move[1]))
                break;                                          // can't take occupied space
            System.out.println("That space is occupied.");
        }

        Game.markFirst(move[0], move[1]);                       // mark an X on the board
        winner = Game.win();                                            // Check if win
        if (winner != 'None')
            break;
        System.out.println(Game);
        getTurn++;                                          //return turn to the other player
    }
System.out.print("Player O: Enter 1-9 to make choice!");                  // Player O's turn

while(true)
    {
        move = getMove();
        if(!Game.elementMarked(move[0], move[1]))
            break;
        System.out.println("This square has been chosen. Please enter a new square.");
    }
```

```
                Game.markSecond(move[0], move[1]);
                winner = Game.win();                                                    // Check if win
                if( winner != 'None')
                        break;
                System.out.println(Game);
                getTurn++;                                                      //return turn to the other player
          }
        System.out.println(Game);

        if (winner == 'Cat')
                System.out.println("This is a cat's game.");
        if (winner != 'Cat')
                System.out.println("The winner is: " + winner);
}

public static int[] getMove()                           // getMove gets the users choice and translates it into rows and columns
  {
        new InputStreamReader(System.in);
        BufferedReader theKeyboard = new BufferedReader (new InputStreamReader(System.in));

        String input = "";
        int [] move = new int[2];
```

```
boolean errorInput = false;
do
  {
        try
          {
                input = theKeyboard.readLine();
          }
        catch(IOException e)
          {
                System.out.println("input error:" + e);
                System.exit(1);
          }
            if(input.equals("1")) {move [0] = 0; move[1] = 0; errorInput = false;}
        else if(input.equals("2")) {move [0] = 0; move[1] = 1; errorInput = false;}
        else if(input.equals("3")) {move [0] = 0; move[1] = 2; errorInput = false;}
        else if(input.equals("4")) {move [0] = 1; move[1] = 0; errorInput = false;}
        else if(input.equals("5")) {move [0] = 1; move[1] = 1; errorInput = false;}
        else if(input.equals("6")) {move [0] = 1; move[1] = 2; errorInput = false;}
        else if(input.equals("7")) {move [0] = 2; move[1] = 0; errorInput = false;}
        else if(input.equals("8")) {move [0] = 2; move[1] = 1; errorInput = false;}
        else if(input.equals("9")) {move [0] = 2; move[1] = 2; errorInput = false;}
        else errorInput = true;
```

```
                if (errorInput)
                        System.out.print("Error input. Enter a number within 1-9: ");
              }
            while(errorInput);
            return move;
        }                                                                    // The end of getMove
}                                                                            // The end of class TicTacToe
```