

1. Complete the code provided on the Class 37 web page to implement a game of **Tic-Tac-Toe**. A solution executable is provided: the first thing you should do is double-click on it or run it from a console window command-line to see how the program is intended to work. Then, before you start typing code, you must carefully read through the code in both the header file and the source code file to get an understanding of what each function is doing. If you don't take time to examine the code, **you will be lost**.

After reading and understanding the code that is provided and its flow of control, everywhere there is a numbered comment, you will need to *do what the comment says*. Note that the numbers are not necessarily meant to imply that you are to make changes in numbered order though.

a. You will need to add prototypes to the header file.

b. You will need to finish implementing these functions:

```
// Asks if the user wants to play the game.
// Returns true or false, depending upon the answer.
bool play( );

// Initializes the Tic-Tac-Toe board
// Sets the 'game_over' flag to false
void initTTTBoard( int board[][3], bool &game_over );

// Checks for a winner
// Sets the 'game_over' flag to true or false appropriately
bool win( int board[][ MAXCOLS ], bool &game_over );

// Makes a player move:
// (1) Asks for where to move
// (2) Updates the board
// (3) Keeps count of how many moves were made
void move( char player, int board[][3], int &nmoves );

// Returns the sum of one row in a 2D array
int rowSum( int row, int a[ ][ MAXCOLS ], int ncol );

// Returns the sum of one column in a 2D array
int colSum( int col, int a[ ][ MAXCOLS ], int nrow );
```

c. You will need to add appropriate function calls.

2. Turn in: (1) This sheet with your name on it, to which is stapled:
(2) A hardcopy listing of ttt.h, ttt.cpp
(3) A screen snapshot of a horizontal X win,
a screen snapshot of a vertical O win,
a screen snapshot of a right-diagonal X win,
a screen snapshot of a left-diagonal O win,
a screen snapshot of no winner.
(4) A screen snapshot of "play again" in action.

3. DUE: Beginning of class Monday 27 Oct 2008. This means turn it in at 13:30, not later.