

## CS 42 C++ Programming Essentials:

### Project TicTacToe:

#### Activity 1: Design a Simple Game Loop

1. Please copy the Board.h and tictactoe.cpp file to a new directory named tictactoe\_Activity1
2. Assuming that the TicTacToe game is played only by human

Implement the following game loop:

1. Set the initial current\_player to be the "X";
2. Create an empty game board.
3. Set done to be false
4. Set i to be 0 // is the counter of how many plays have been done
5. while (!done){  
    ask current\_player to take a move // check if the location has been taken  
    // the move is invalid, the current\_player needs to pick a move  
    // until is it valid  
    // the returned value should be a valid move  
  
    update the game\_board  
    if (is\_won(current\_player)) done = true;  
    update the current\_player to the opponent of current\_player  
    if (i>=8) done = true; // if all 9 cells has been filled.  
    else i++; // increase the  
}
6. determine the game is won by X or O or a tie.