Assignment 1 report

1. Classes:

1.1 Cell attributes:

We used 1 class called cell to describe a cell with a set of attributes and describe its functionality with a set of methods.

For attributes we used "type" to show whether the cell is empty, holds 'X', or holds 'O'. We also used neighbor variables to keep track of similar neighbors on different axes per cell and then join them together eventually. For each cell, we used 'x' and 'y' variables to store the position of the current cell in the main array that would be passed in during initialization in the constructor. Finally, a static variable was used to determine whether anyone won or the game is still running.

1.2 Cell methods:

To check if any 3 similar types have been found in a row, we used the neighbor attributes of each cell together to check if the link has been found.
To set a specific cell to 'X' or 'O', we used the assign function that makes sure the input is either 'X' or 'O' and then assigns it to the 'type' attribute, then calls the checker function to check if the link has been found in neighboring cells. We also have some setter and getter functions to encapsulate our variables. Finally, a display function was used to show the board.

2. Main:

The main function was very simple. We used a while loop as the main game loop and used a boolean to signify the turns that would be switched after every turn. Putting everything together was as simple as initializing a 6x7 Cell array and then running the main game loop.