

CULMINATING ACTIVITY (TIC-TAC-TOE)**File Name:**

- *(first name)_(lastname)_Culminating_Activity.cs*

Knowledge & Understanding / Application:

You are going to make a TIC-TAC-TOE game! We all know how tic-tac-toe works, but here are some tips:

- You will need a 2D array (grid) of chars where each entry can either be 'x', 'o' or the empty char '\0'.
- Use a game loop (while-loop) and have the program end when the user enters '-1'.
- The grid of chars should print to the screen on every iteration of the game loop. Clear the screen every time you print the grid with the following line of code:

```
Console.Clear();
```

- Your sequence should be like the following:
 - Print board (grid)
 - Ask user 1 for a coordinate (make sure spot is free and ask again if it is not)
 - Print board (grid)
 - Ask user 2 for a coordinate (make sure spot is free and ask again if it is not)
 - Print board (grid)
 - Check if someone won or if there is a tie (restart game if needed)
 - Repeat (you can assume that user 1 is 'x' and user 2 is 'o').

Thinking:

Games, and computer programs in general, can always be taken to the next level. You may want to implement the following:

- Ask how many users are playing when the program starts (1 or 2?).
- If only 1 user is playing, then the computer should randomly generate a position for 'o'.
- When the game has completed, ask if the user would like to play again.

Note: At the least, please attempt the Knowledge & Understanding portion of this assignment. You will still get a good grade if you only complete that!