

The Noughts and Crosses coursework has been a challenging task but I learnt a lot from it. In this reflective report I attempt to answer several questions regarding this coursework.

### **1. What are the most challenging aspect of the coursework task?**

The most challenging aspect of this coursework task was to implement the tictactoe game following all of the instructions properly while also following the PEP-8 coding standard using pylint. Using pylint to ensure that PEP-8 coding standard was followed would always return some kind of error and force me to rewrite my code in a different way to make sure that I get a good code rating from pylint.

### **2. How did you go about completing the task?**

When I started my coursework I first figured out how to draw the board using code. Then I implemented welcome function to print the welcome message and instructions to the user. After that I initialized the board by making all of the items in the board empty spaces ' '. Then I implemented the function to take the users input and convert the input to rows and columns format and I implemented the function to randomly choose an empty cell for computers choice. Then I implemented the check for win function to check if a given mark (X or O) has won or not and I also implemented the check for draw function to see if there are no empty cells left. Then I implemented the play game function to run all of the functions above in correct order, after that I implemented the functions to load, save and display the leaderboard from a .txt file using the json module to convert the leaderboard from string to dictionary and vice versa. Finally I implemented the function to show the menu of the game to the user.

### **3. What have you learned over the course of completing this coursework task?**

I learned many things over the course of completing this coursework task. Some great things I learned from this coursework are:

- a) I learned the PEP8 coding standard to write code with the best practices while maintaining readability and efficiency of the code.
- b) I learned to write programs with multiple functions in a way such that there are many reusable parts which help me write less code and also the code is easier to manage.
- c) I learned to open txt files with contents stored in json format, read contents from it, convert it to dictionary using json module and manipulate them, and then convert them back to string and write it to the file again.
- d) I learned to properly manipulate 2 dimensional lists using python.