

1. What are the most challenging aspects of the coursework task?

The most challenging aspects of this coursework task are to call the function itself again and again, understanding the logic and algorithm of the game, managing the game logic, handling the file and file messages using JSON file, handling the input entered by the users and importing different inbuilt functions like random, OS path and JSON and using them, managing the leaderboard, handling the user errors and invalid inputs by the users and update the leaderboard after each game. Frequent user prompts to enter the row and column in the same line and managing their place in the empty cells. Managing the flow of the game ensuring the board update in the correct cell after every move and detecting the win, lose or draw condition by checking the rows, column and diagonals after fulfillment of all cells. These challenges point out the importance of the designing input, output, debugging and creating error message which can help user to overcome the error.

2. How did you go about completing the task?

Firstly, I had understood the concept and logic of the noughts and crosses' game. Understanding the flow of game and algorithm works of the game. Firstly, I had imported some of the inbuilt function to run this program and defined a function, iterating the loop for the players and computer moves. Creating many functions can lead to error in the program, I had tested each function one by one. At first, I had created a board and then created a welcome function to display the message and called the board function, making the initial empty board then ask player to enter a move in row and column form in the same line separated by space then checking if the cell is empty or occupied and also handling the error using try and except after that iterating the code for the computer moves taking the random moves by using random function and checking the win, lose or draw status. Then I had built a loop to play the game between player and computer by calling a couple of functions, handling the file operations where leaderboard was added to store a name and score in JSON format. I have also checked this program to clarify the error and can improved the program efficiency.

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

After completing the unbeatable noughts and crosses coursework, I have gathered a numerous and valuable learning experiences. Mainly, I have understood the flow of the functions and working algorithm of the game and learned to solve the problem step by step. I have also learned to handle the error, logical program, file handling, debugging skills, code structure, learned to store data in the JSON format, building a simple logic game and call the functions by itself. Testing the programs is one of the important lessons I have learned by the completion of this coursework.