EAST WEST UNIVERSITY

CSE103: Structured Programming
[Summer 2023]

Project Report
Game: Tick Tack Toe

Course Code	**:**	**CSE103**
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Submitted by:

Student ID	Student Name	Contribution Percentage
2018-1-60-157	Adnan Saif Dipto	100%

1. Introduction

This is a simple project of the game “Tick Tack Toe”. A very simple demonstration of the knowledge that I have gained from the course CSE105: Structured Programming. Using several functions, the project is developed. Tick Tack Toe is a very interesting and easy game which is liked by people of all ages.

2. All functions description

For this project, total number of three functions has been developed. The accumulation of these functions gives the project its desired output. The functions have been discussed below:

2.1 int main():

The main function of the project is the “int main()” function. From this function all the variables are declared. Also the other functions are called from this function.

Firstly there is global variable in the project that is named “box[10]”. This is a character type array with ten spaces and initialized from 0 to 9. These are used to denote each of the box in the tick tock toe game space.

In the very first of the main function necessary variables are declared and initialized. Here they are “player” which is initialized to 1, a variable “i” which is initialized with “-1” and “choice”. All of them are integer type variable. And lastly a character type variable “mark”.

Now a while loop is created. It will run while the value of variable “i” is equals to “-1”.

Here, a system(“cls”) function is used and for that a header named “#include<windows.h>” is also used. It is used to clean the console of output so that it may look clean.

Then the board() function is called.

Using simple if-else statement the players are chosen. So that every time, the turn of players may change. The selected player will then choose a number between 1-9 that denoted the game space. For player 1 the chosen space will be marked as"X" and for player 2 the space will be marked as "O". Anything else then then 1-9 will be marked as invalid move and the turn will change. After every move the situation of winning or losing will be checked using the "checkwin()" function.

In the last turn, the final board of the game will be shown with all the moves.

Using a simple check of the value of variable "i", the game is decided to be won or draw. The winner of the game is shown, or it shows that the game has been draw. Change of the variable "i" will stop the game.

2.2 void board():

This function is used to create the game board.

In the top of the board the name of the game is visible. And player marks are given. Using simple printf() function all the board is filled. Using the global variable the board is filled with the name of that particular box. There are 9 boxes just like a traditional tick tack toe game board. A picture of the board is shown:

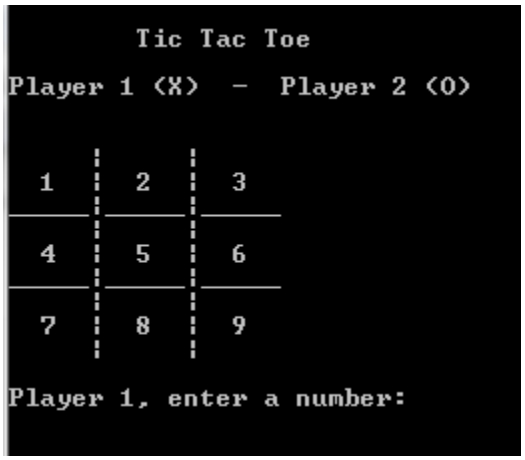

Fig 01: Game Board

2.3 int checkwin():

This function is used to check the situation of the game. It can be won by either of the two players of the match can be a draw. To win the game, there are 8 conditions. Either one of one will result in winning. And the player achieving that condition will be victorious. There are three possible combination rows wise. Another three possible conditions are there column wise. And two conditions diagonally. If three of the consecutive boxes in row, column or diagonal spaces are marked by the same player, the game will be won by that player.

Using simple if-else conditions, these criteria are checked. If any of the criteria is filled than the function will return 1, and if the marked is by “X” player 1 will be victorious, if marked by “O” then player 2 is victorious. If none of the boxed match then the game will be draw.

3 Conclusion

This was a simple project with an average complexity. This contains the knowledge of array, functions, loop, if-else. I have tried to make the project as simple as possible.