KNOTS AND CROSSES

Submitted in the partial fulfillment for the award of

the degree of

BACHELOR OF ENGINEERING

IN

CSE Artificial Intelligence & Machine Learning

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Outline

- Introduction to Project
- Applications
- Objectives of the work
- Methodology used
- Results and Outputs
- Conclusion
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Introduction to Project

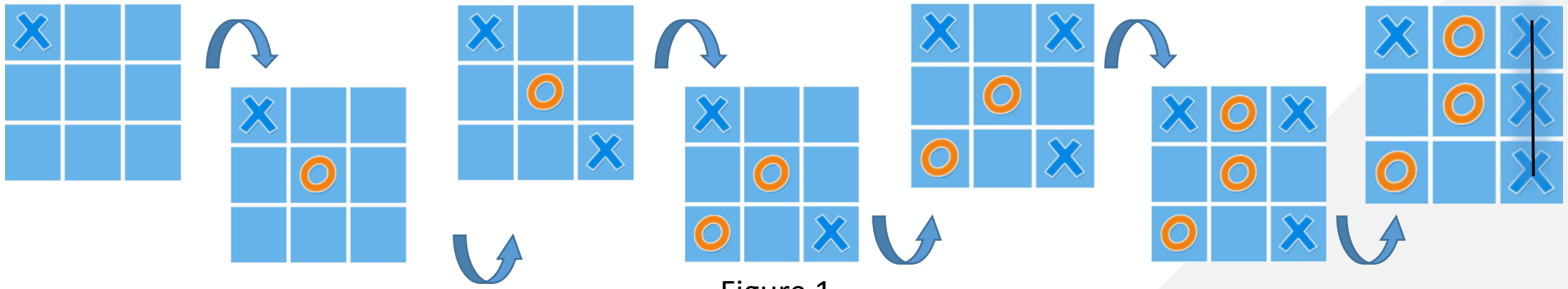

Figure 1

- Knots and Crosses game with a basic ideology of Tic Tac Toe game.
- This game can be played for entertainment purposes.
- The game consists of grids of various dimensions like 3X3, 5X5 and 7X7.

- The Game can be played against a fellow player or against the computer.
- The user needs to place consecutive knots or crosses in order to win.
- Every grid has its own rules.

APPLICATIONS

- Thinking ability enhancement.
- Entertainment purposes.
- Escaping boredom.
- Non-Addictive.

Objectives

- Brings about changes in the already existing Tic Tac Toe.
- More advanced.
- Thinking ability enhancement along with entertainment.
- Attempt to bring about our own innovation.

EQUIPMENT USED:

Hardware used

- Operating system: Windows 10
- RAM: 8GB
- Storage required: 10GB

Software used:

- We made the use of visual studio code for the implementation of the program. However, any **offline** IDE can be used to implement it.

METHODOLOGY

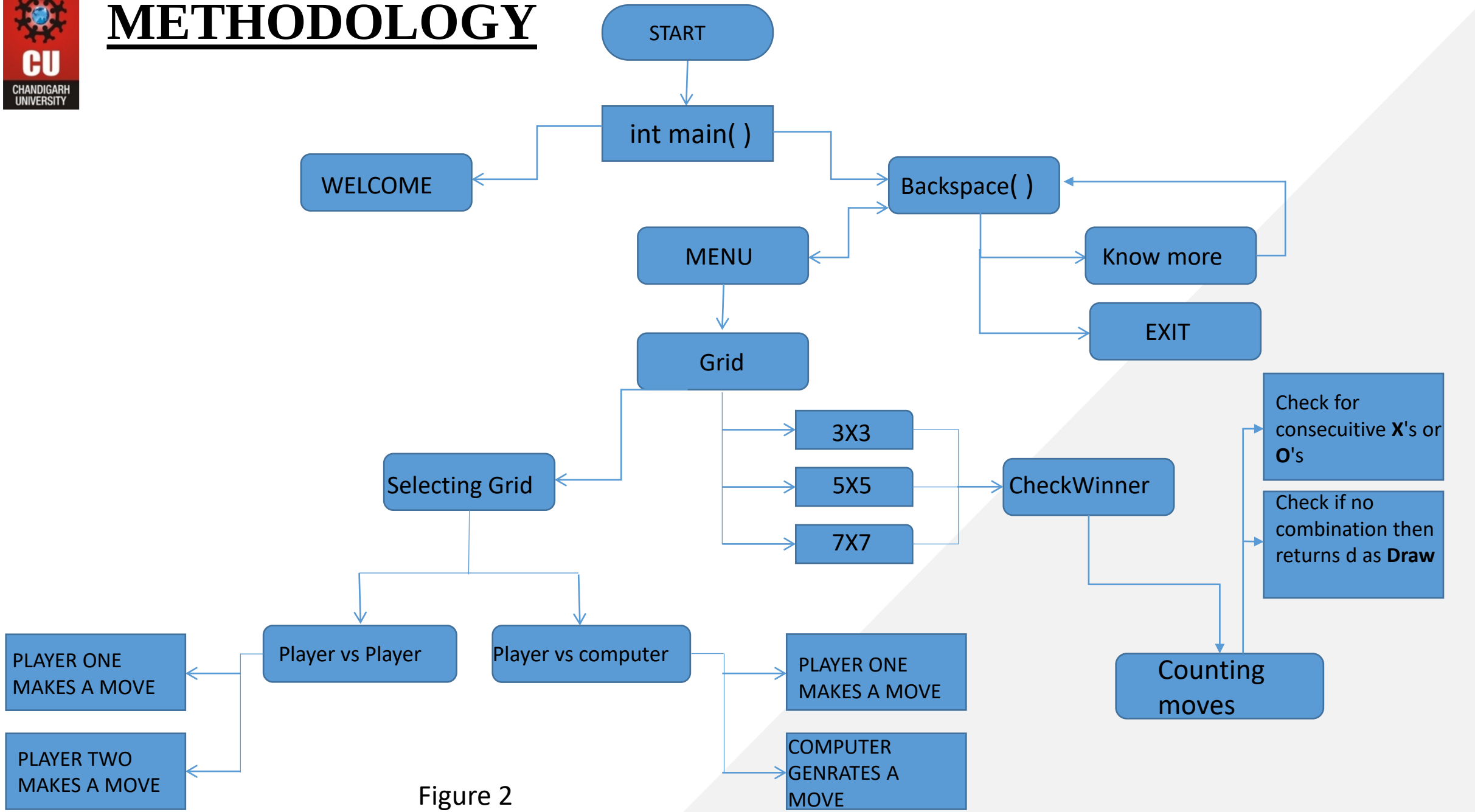

Figure 2

Results and Outputs

SHOW BOARD:

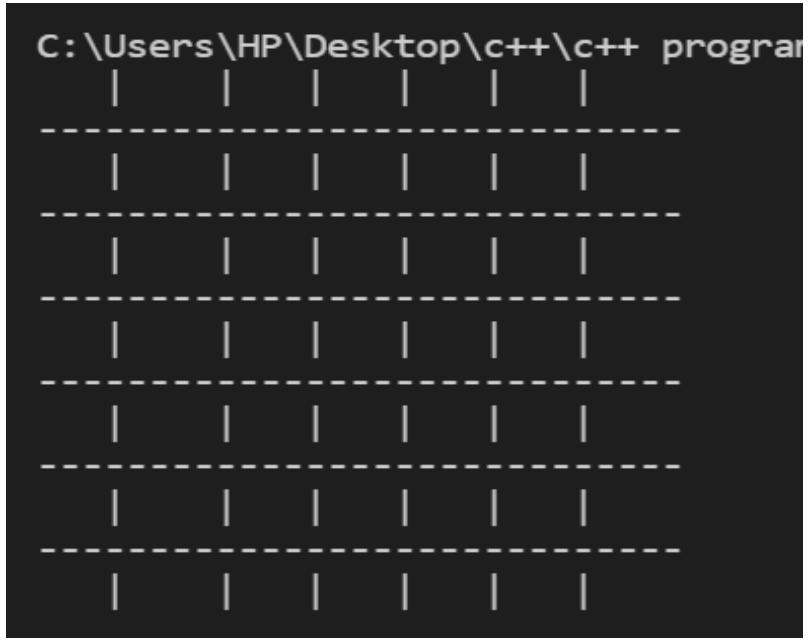

Figure 3

WELCOME MESSAGE:

Figure 4

Backspace function

```
ENTER 1 TO GO TO MAIN MENU
ENTER 2 TO KNOW MORE ABOUT GAME
ENTER 3 TO EXIT
```

Figure 5

Know more about the game

```
PLACE A X's OR O's  IN A PARTICAL BLOCK OF THE GRID
YOU HAVE TO MAKE A HORIZONTAL, VERTICLE OR A DAIGNOL LINE EDGE TO EDGE TO WIN THE GAME.....
ENTER 1 TO GO TO MAIN MENU
ENTER 2 TO KNOW MORE ABOUT GAME
ENTER 3 TO EXIT
```

Figure 6

Main Menu

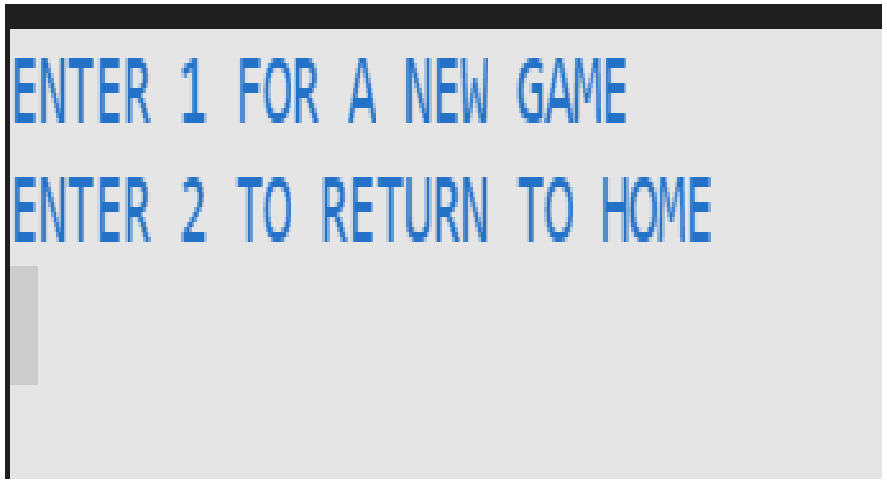

Figure 7

New Game

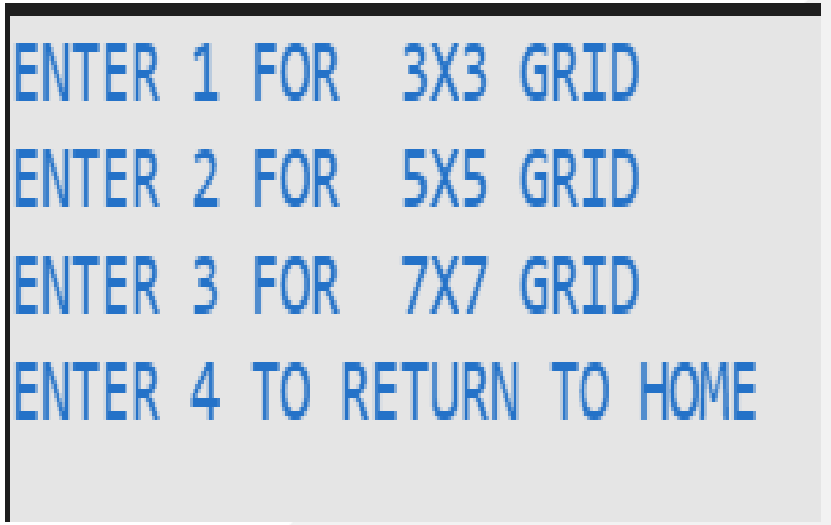

Figure 8

Choice for computer vs. player or player vs computer

```
THE RULES FOR ROUND 2 IS AS FOLLOWS:
1. IN 5X5 GRID CONNECT FOURS X'sOR FOURS O'sIN A ROW TO WIN THE GAME.
2. BLOCK USED ONCE CANNOT BE RE-USED.
3. PLAYER CAN ONLY SELECT ONE SYMBOL.
4. 2 PLAYERS CAN ONLY PLAY.



1. Computer VS Player.
2. Player VS Player.
Select Game Mode.
```

Figure 9

COMPUTER VS PLAYER

Selection and displaying grid

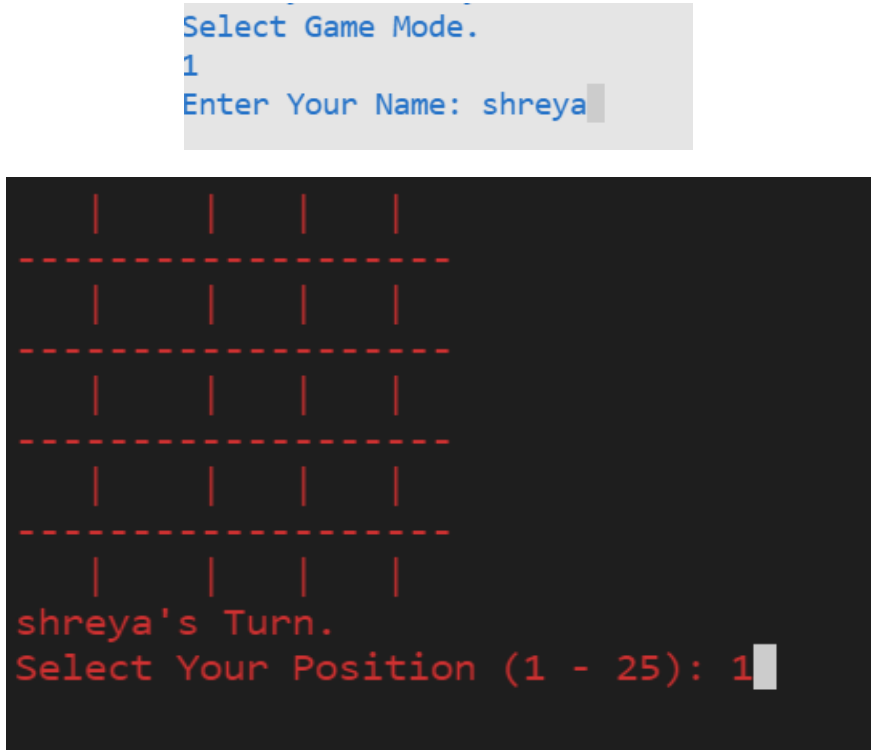

Figure 10

Declaring result

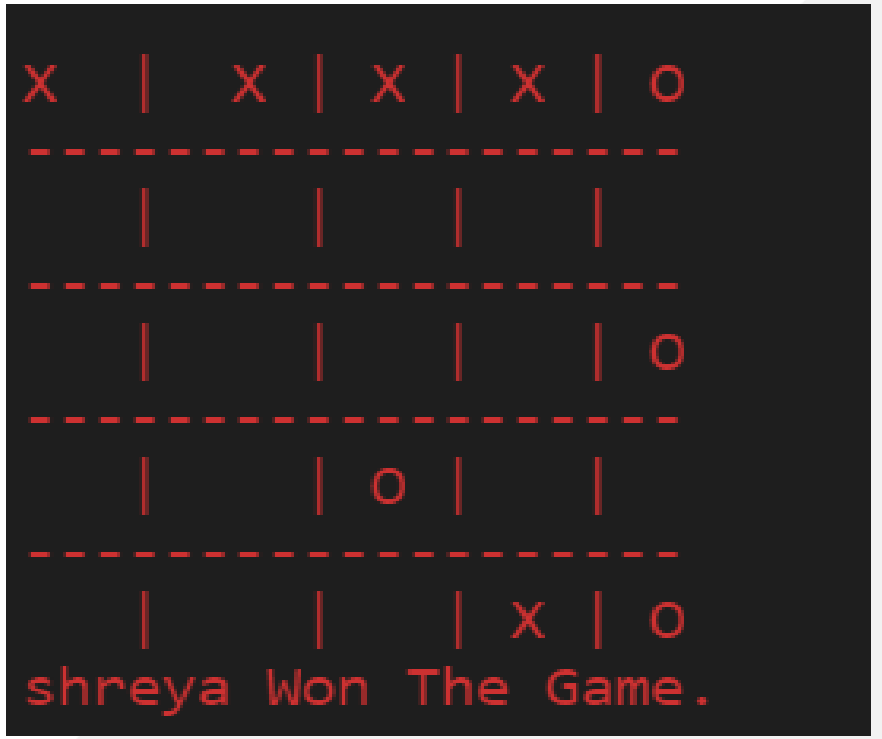

Figure 11

PLAYER VS. PLAYER

Selecting modes and entering name

```
Select Game Mode.
2
Enter X Player Name: shreya
Enter O Player Name: parth
```

Figure 12

Declaring result

```
X  |  O  |  X
-------------
O  |  O  |  X
-------------
   |  X  |  O
shreya's Turn.
Select Your Position (1 - 9): 7
Game is Draw.
```

Figure 13

Conclusion

- Reinvented an already existing game on our own terms.
- Applied basic concepts of C++.
- Learned new things in the process.

Future Scope:

- In the future we wish to do further additions to this project like linking it up with graphics using Graphical user Interface(GUI), adding larger grids to it making it more complex and entertaining these additions will be made keeping basic requirements for the device to run the code

References

1. Color commands:

https://www.geeksforgeeks.org/how-to-print-colored-text-in-c/

2.Bold command:

https://stackoverflow.com/questions/29997096/bold-output-in-c/29997156

3.Clear Screen command:

https://mathbits.com/MathBits/CompSci/Introduction/clear.htm

4.Game reference:

https://www.math10.com/en/math-games/tic-tac-toe/tic-tac-toe.html