

# TICTACTOE GAME

My part of working on this game was that I had to make a prototype of the code for the game so that others could add their ideas and parts to it.

In order to recreate this game in c #, first of all it is necessary to understand the details.

Below is my analysis of the code for the game and how it should work

## 1. Initialization:

- Initialize necessary variables:
  - screenWidth and screenHeight: Set the dimensions of the game window.
  - boardSize: Set the size of the game board.
  - board: Initialize the game board as a 2D array.
  - currentPlayer: Initialize the current player (1 or 2).
  - gameOver: Initialize the game over flag.

## 2. Game Loop:

- Enter the game loop:
  - Check if the window should close or if the game is over.
  - Clear the background for rendering.
  - Draw the game board:
    - Iterate over each cell of the board.
    - Draw X or O if a player has marked the cell.
    - Draw cell borders.
  - Check for player input:
    - If the left mouse button is pressed:
      - Get the cell clicked by the player.
      - Check if the cell is empty and the game is not over:
        - Mark the cell with the current player's symbol.
        - Check for win condition.
        - Check for draw condition.
        - Switch players if the game is still ongoing.
  - End drawing for the current frame.

## 3. Win Condition Check (CheckWin method):

- Check rows and columns for the presence of the current player's symbol in a winning configuration.
- Check diagonals for the presence of the current player's symbol in a winning configuration.
- Return true if a win condition is met, otherwise return false.

```

static bool CheckWin(int[,] board, int player)
{
    for (int i = 0; i < 3; i++)
    {
        if ((board[i, 0] == player && board[i, 1] == player && board[i, 2] == player) ||
            (board[0, i] == player && board[1, i] == player && board[2, i] == player))
        {
            return true;
        }
    }

    if ((board[0, 0] == player && board[1, 1] == player && board[2, 2] == player) ||
        (board[0, 2] == player && board[1, 1] == player && board[2, 0] == player))
    {
        return true;
    }

    return false;
}

```

#### **4. Draw Condition Check (IsBoardFull method):**

- Check if there are any empty cells left on the board.
- If all cells are filled, return true, indicating a draw; otherwise, return false.

#### **5. Closing the Window:**

- Close the game window after the game loop exits.

