

# Tic Tac Toe – Game

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## Form Design:

### Form2

A screenshot of a Windows form titled "Tic Tac Toe". It contains two text boxes: "Player One Name" and "Player Two Name". Below the text boxes is a "Play" button.

### Form1

A screenshot of a Windows form titled "Tic Tac Toe" showing the main game interface. The form includes a menu bar with "File" and "Help" menus. The "File" menu is open, showing options: "New Game", "Reset Win Count", and "Exit". The "Help" menu is also open, showing options: "Type Here", "About", and "Type Hi". A 3x3 grid is in the center. At the bottom, there are three labels: "X Win Count", "Draw Count", and "O Win Count", each with a value of 0. Annotations with arrows point to various components: a blue box around the "File" and "Help" menus points to "MenuStrip"; a black arrow points from the "File" menu to "Button - B2"; a black arrow points from the "Help" menu to "Label - PlayerOneLabel"; and a blue arrow points from the "File" menu to "MenuStrip".

## Source Code:

### Form2

```
using System;
using System.Windows.Forms;

namespace TicTacToe_Game
{
    public partial class Form2 : Form
    {
        public Form2()
        {
            InitializeComponent();
        }

        private void play_button_Click(object sender, EventArgs e)
        {
            Form1.setPlayerNames(playerOneTB.Text, playerTwoTB.Text);
            this.Close();
        }
    }
}
```

### Form1

```
using System;
using System.Windows.Forms;

namespace TicTacToe_Game
{
    public partial class Form1 : Form
    {
        bool turn = true; // True = X turn; False = O turn
        int turn_count = 0;
        static string player1;
        static string player2;

        public static void setPlayerNames(string n1, string n2)
        {
            player1 = n1;
            player2 = n2;
        }

        private void Form1_Load(object sender, EventArgs e)
        {
            Form2 f2 = new Form2();
            f2.ShowDialog();
            playerOneLabel.Text = player1;
            playerTwoLabel.Text = player2;
            if (playerOneLabel.Text == "")
            {
                playerOneLabel.Text = "X";
            }
            if (playerTwoLabel.Text == "")
            {
                playerTwoLabel.Text = "O";
            }
        }

        private void button_leave(object sender, EventArgs e)
        {

```

```

        Button b = (Button)sender;
        if (b.Enabled)
        {
            b.Text = "";
        }
    }

    private void button_click(object sender, EventArgs e)
    {
        Button b = (Button)sender;
        if (turn)
            b.Text = "X";
        else
            b.Text = "O";

        turn = !turn;
        b.Enabled = false;
        turn_count++;
        checkForWinner();
    }

    private void checkForWinner()
    {
        bool thereIsAWinner = false;

        //Horizontal Checks
        if ((A1.Text == A2.Text) && (A2.Text == A3.Text) && (!A1.Enabled))
            thereIsAWinner = true;
        else if ((B1.Text == B2.Text) && (B2.Text == B3.Text) && (!B1.Enabled))
            thereIsAWinner = true;
        else if ((C1.Text == C2.Text) && (C2.Text == C3.Text) && (!C1.Enabled))
            thereIsAWinner = true;

        //Vertical Checks
        else if ((A1.Text == B1.Text) && (B1.Text == C1.Text) && (!A1.Enabled))
            thereIsAWinner = true;
        else if ((A2.Text == B2.Text) && (B2.Text == C2.Text) && (!A2.Enabled))
            thereIsAWinner = true;
        else if ((A3.Text == B3.Text) && (B3.Text == C3.Text) && (!A3.Enabled))
            thereIsAWinner = true;

        //Diagonal Checks
        else if ((A1.Text == B2.Text) && (B2.Text == C3.Text) && (!A1.Enabled))
            thereIsAWinner = true;
        else if ((A3.Text == B2.Text) && (B2.Text == C1.Text) && (!A3.Enabled))
            thereIsAWinner = true;

        if (thereIsAWinner)
        {
            disabledButtons();//Disables all the buttons once the result is
            String winner = "";
            if (turn)
            {
                winner = player2;
                o_win_count.Text = (Int32.Parse(o_win_count.Text) + 1).ToString();
            }
            else
            {
                winner = player1;
                x_win_count.Text = (Int32.Parse(x_win_count.Text) + 1).ToString();
            }
        }
    }
}

```

declared

```

        MessageBox.Show(winner + " Wins!", "Result");
    }

    else
    {
        if (turn_count == 9)
        {
            MessageBox.Show("Draw!", "Result");
            draw_count.Text = (Int32.Parse(draw_count.Text) + 1).ToString();
        }
    }
}

//FILE ____ MenuStrip

private void newGameToolStripMenuItem_Click(object sender, EventArgs e)
{
    turn = true;
    turn_count = 0;
    enabledButton();
    resetButtonText();
}

private void resetWinCountToolStripMenuItem_Click(object sender, EventArgs e)
{
    x_win_count.Text = "0";
    o_win_count.Text = "0";
    draw_count.Text = "0";
}

private void exitToolStripMenuItem_Click(object sender, EventArgs e)
{
    Application.Exit();
}

//HELP ____ MenuStrip

private void aboutToolStripMenuItem_Click(object sender, EventArgs e)
{
    MessageBox.Show("By\n Shahzeb\n Yasir\n Ismail\n\n OOP Final Project!\n\n shahzebdasti98@gmail.com", "About");
}

private void enabledButton()
{
    A1.Enabled = true;
    A2.Enabled = true;
    A3.Enabled = true;
    B1.Enabled = true;
    B2.Enabled = true;
    B3.Enabled = true;
    C1.Enabled = true;
    C2.Enabled = true;
    C3.Enabled = true;
}

private void disabledButtons()
{
    A1.Enabled = false;
    A2.Enabled = false;
    A3.Enabled = false;
}

```

```

        B1.Enabled = false;
        B2.Enabled = false;
        B3.Enabled = false;
        C1.Enabled = false;
        C2.Enabled = false;
        C3.Enabled = false;
    }

    private void resetButtonText()
    {
        A1.Text = "";
        A2.Text = "";
        A3.Text = "";
        B1.Text = "";
        B2.Text = "";
        B3.Text = "";
        C1.Text = "";
        C2.Text = "";
        C3.Text = "";
    }

    public Form1()
    {
        InitializeComponent();
    }
}

```

**Output:**

