

Mr. Giansante



Visual Basic

Tic-Tac-Toe

August 2016

Tic-Tac-Toe

Learning Objectives:

Exploring a problem space (ie. all possible winning combinations).
Creating a procedure that is independent of a control (ie. checkforwin).
Using If-Then Statements.

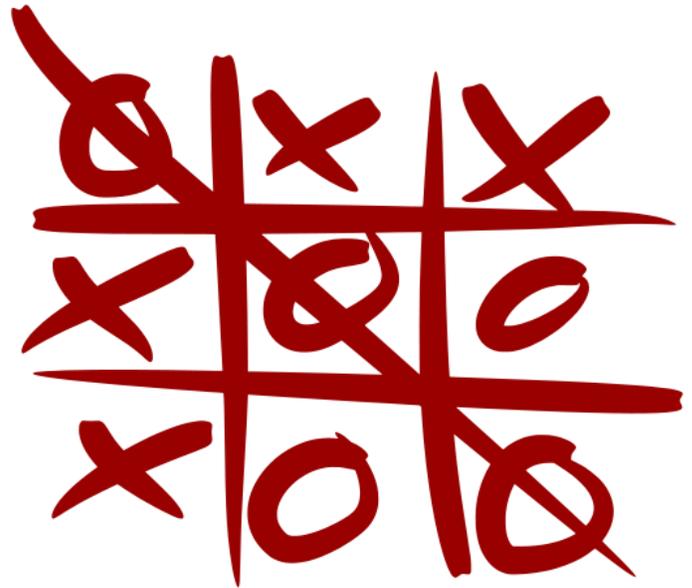
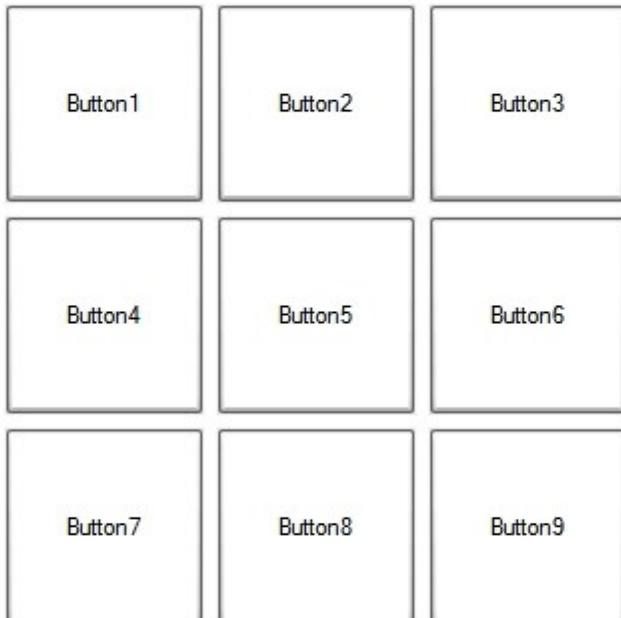
Design a Visual Basic program that simulates a two-player game of Tic-Tac-Toe.

The computer should indicate whose turn it is and should automatically detect when one of the players has won and give an appropriate message.

To set up the playing board, use a grid of 9 button controls.

Your program should draw a line indicating a win.

Your program should display a message if the game ends in a tie.



Draw 9 Button Controls

Using the **Size** property of the Button, change the Width and Height to be 100 and 100 (or something close to this)

Using the **Font** property of the Button, change the Font Size to be large (ie. 72 pts)

Change the **BackColor** property of each Button to White (or some other color).

Change the **Text** property of each button to nothing.

Code for Button1 ...

```
If Button1.Text = "" Then
    Button1.Text = player
    If player = "X" Then
        player = "O"
    Else
        player = "X"
    End If
    checkforwin()
End If
```

Repeat similar code for each of the remaining eight Button controls.

Tic-Tac-Toe

Sub checkforwin()

```
winner = ""
```

```
If Button1.Text = "X" And Button2.Text = "X" And Button3.Text = "X" Then  
    Button1.BackColor = Color.Yellow  
    Button2.BackColor = Color.Yellow  
    Button3.BackColor = Color.Yellow  
    winner = "X"  
End If
```

(repeat similar for 7 more winning combinations for player X)

(repeat similar for 8 winning combinations for player O)

```
If winner = "X" Then
```

```
    response = MessageBox.Show("Player X wins!" + vbNewLine + vbNewLine +  
        "Play Again?", "Winner", MessageBoxButtons.YesNo)
```

```
    If response = DialogResult.Yes Then  
        newgame()  
    Else  
        Me.close()  
    End If
```



Note: Put this all on ONE line.

```
End If
```

(repeat for player O)

(repeat for tie game)

Sub newgame()

```
Button1.Text = ""  
(repeat for all Button controls)
```

```
Button1.BackColor = Color.White  
(repeat for all Button controls)
```

Tic-Tac-Toe

Please fill out all the information in this column using a pen before getting this assignment marked.

Name

Date

Class

Academic Honesty

The work I am submitting is completely my own creation and has not been copied from anyone else's work. If I have received help on this project, the names of those who have assisted are listed below.

Signature

Pre-Marking

The following people have pre-marked this assignment: (minimum of two)

Deductions

Each which is checked indicates the item was not satisfactory and results in the loss of one mark.

Deduction for late assignment is 1 mark per day.

Deduction for program crashing is 2 marks.

User Interface

- Appropriate Text in Title Bar (Form.Text)
- Separators and Access Keys in Menu, Capitalization
- "Exit" DialogBox meets requirements
- "About" DialogBox meets requirements
- Efficient and Esthetically-Pleasing User Interface
- Appropriate controls are used
- Spelling and Grammar are correct

Code / Programming Style

- Variables are declared and logically named
- Code is commented where appropriate
- Code is indented and spaced to show
- Code is efficient

Work Ethic / Problem Solving Skills

- Problem Solving Skills are demonstrated
- Makes Productive Use of Time
- Only Seeks Help when Necessary

Program-Specific Criteria

- First click places either an "X" or an "O"
- Users cannot play out-of-turn
- Cannot place "X" or "O" over an existing "X" or "O"
- Ties are detected
- Wins are detected
- Program displays which player won
- Game resets after each win or tie
- Does not put "You win" twice when the following case occurs ...

XOX

OXO

XOX Put middle "X" square in last

Comments

Mark _____ / 10