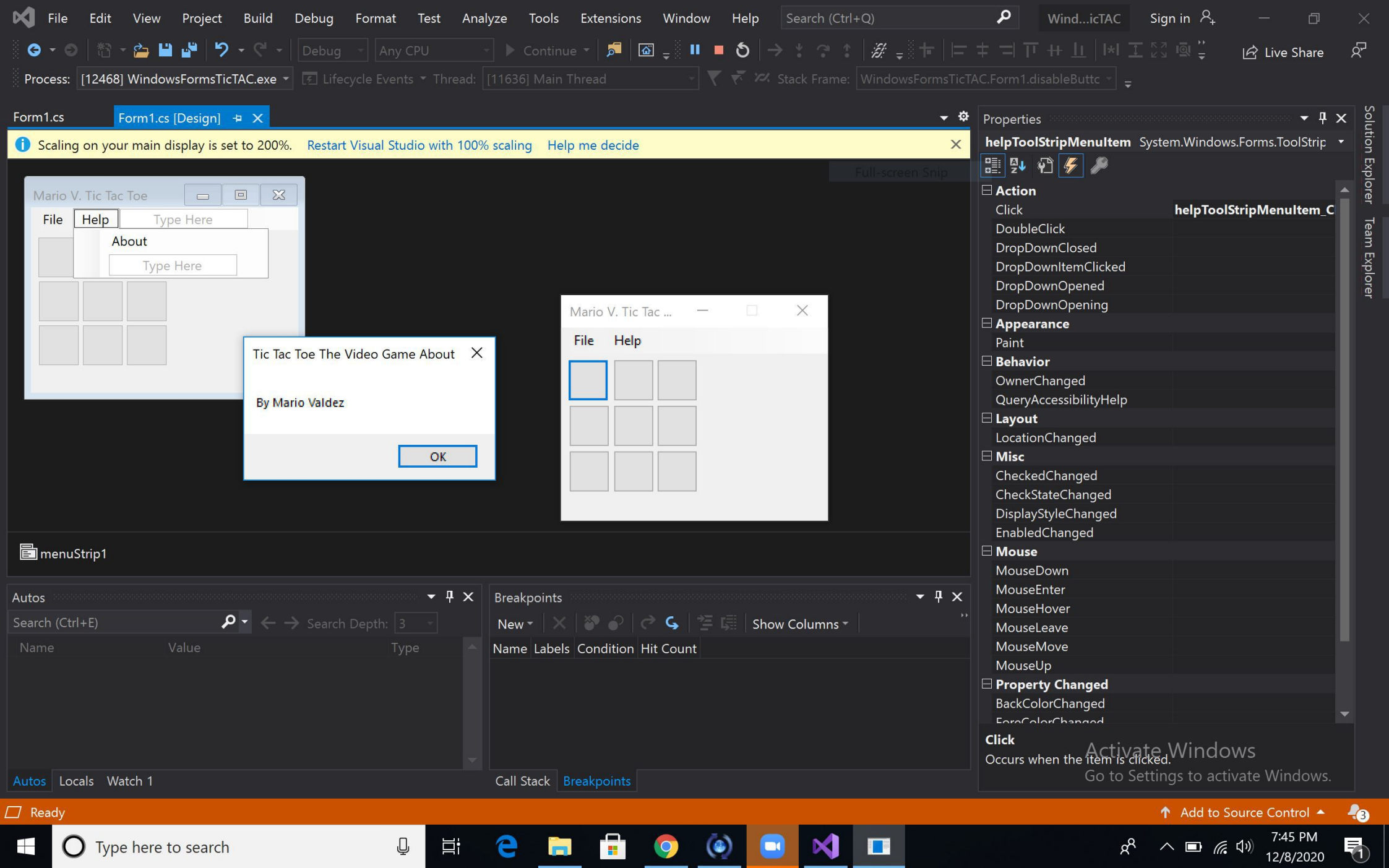
// Mario Valdez -- 12/7/20 -- CS7B -- WindowsFormTicTAC

Introduction: For this arduous project, I have to implement a 4x4 Tic Tac Toe video game using WindowsFormApplication in Visual Studio using the programming language C#. This also meant to be a reference for any future job interviews that may require an illustration of one's knowledge in C# and .Net Framework. The following contains screenshots of the form.cs code, as well as the possible results of many tic tac toe games. Each outcome shows a win from both X and O, how to win diagonally, and also what happens in the event of a draw.

Detailed Analysis and Summary: My work contains a lot of relatively fascinating concepts that are put to the test. There was ample usage of the Toolbox window in WindowsFormApp. The toolbox window is integral to getting the game to function and compile correctly. In the toolbox window, one has to select the option of menuStrip, and create a few more clones of that menuStrip to put onto the box in the form.cs design window for miscellaneous purposes. This allows edits in the box for user-friendly purposes, such as an about section and an option to reset the game after win, loss, or draw. For more efficiency, clicking on the design box and going to properties allows you to edit the names and events of the design box. Likewise, I used this ability to rename each button and resize it to the point where only O's and X's would appear. Furthermore, I categorized each row of buttons(which can also be taken from the toolbox), and renamed them in the rows of A1, B1, C1, etc. as to create organization in the forms.cs code.


File Edit View Project Build Debug Format Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Sign in
Debug
Any CPU
Continue
Live Share
Process: [12468] WindowsFormsTicTAC.exe
Lifecycle Events
Thread: [11636] Main Thread
Stack Frame: WindowsFormsTicTAC.Form1.disableButtc
Form1.cs
Form1.cs [Design]
Scaling on your main display is set to 200%.
Restart Visual Studio with 100% scaling
Help me decide
Mario V. Tic Tac Toe
File
Help
Type Here
About
Type Here
Tic Tac Toe The Video Game About
By Mario Valdez
OK
Mario V. Tic Tac ...
File
Help
menuStrip1
Properties
helpToolStripMenuItem System.Windows.Forms.ToolStrip
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Autos
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Show Columns
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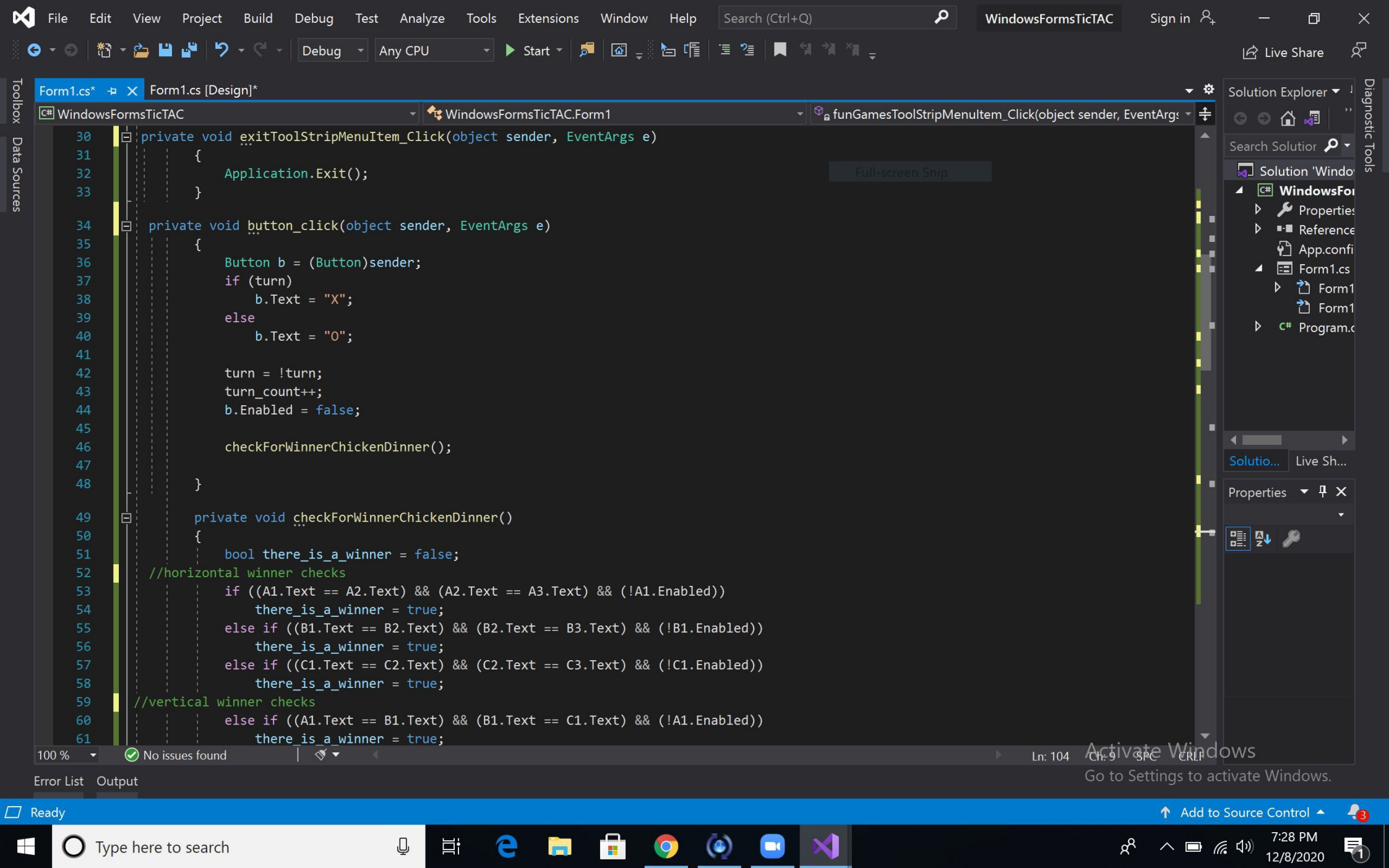
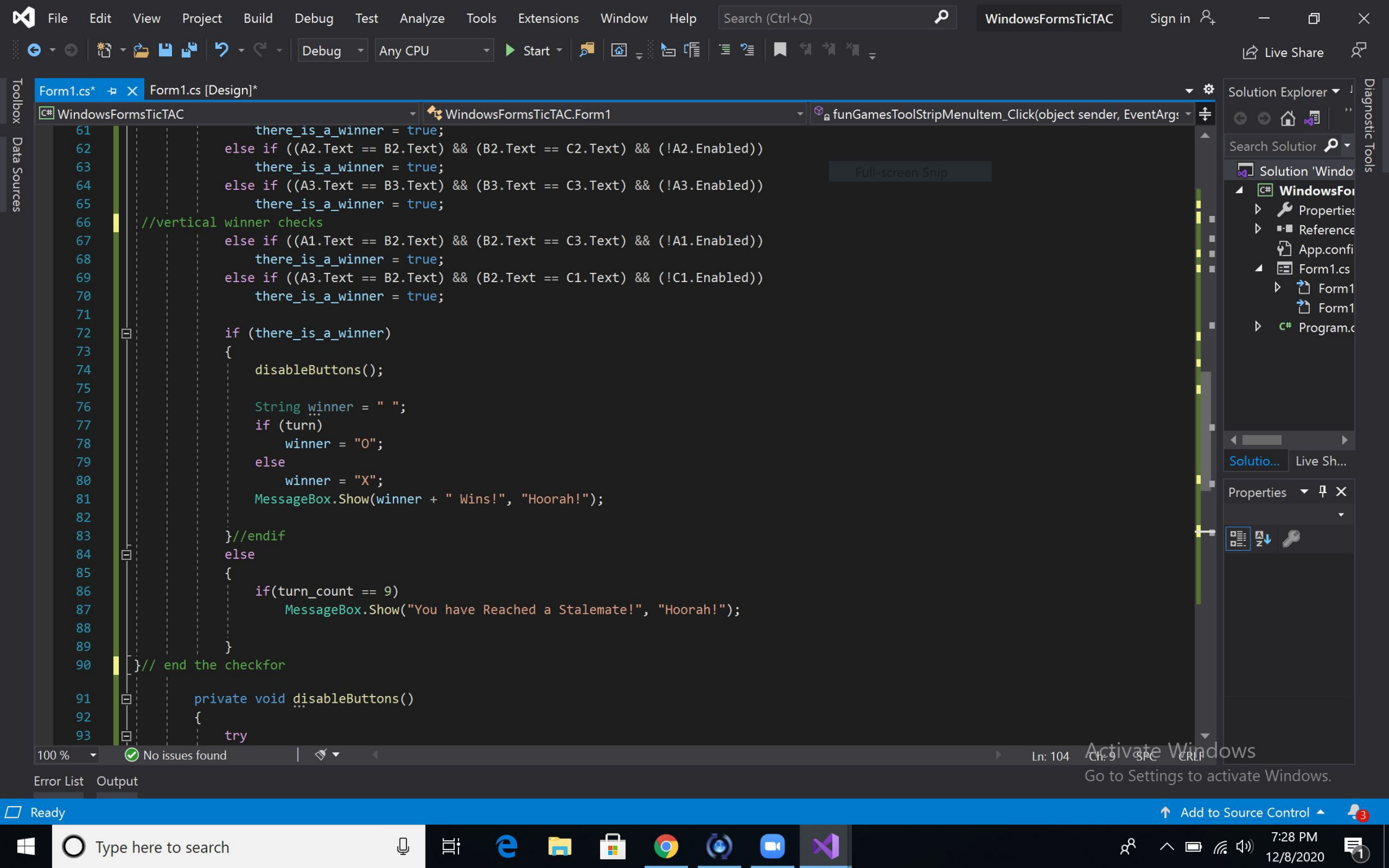
Breakpoints
Solution Explorer
Team Explorer
Ready
Add to Source Control
Type here to search
7:45 PM
12/8/2020

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;

namespace WindowsFormsTicTAC
{

    public partial class Form1 : Form
    {
        bool turn = true; // if its true, then X will show up, Y if false
        int turn_count = 0;

public Form1()
        {
            InitializeComponent();
        }

        private void aboutToolStripMenuItem_Click(object sender, EventArgs e)
        {
            MessageBox.Show("By Mario Valdez", "Tic Tac Toe The Video Game About");
        }


        private void helpToolStripMenuItem_Click(object sender, EventArgs e)
        {

        }
```

Activate Windows
Go to Settings to activate Windows.




```
30  private void exitToolStripMenuItem_Click(object sender, EventArgs e)
31          {
32              Application.Exit();
33          }
34  private void button_click(object sender, EventArgs e)
35          {
36              Button b = (Button)sender;
37              if (turn)
38                  b.Text = "X";
39              else
40                  b.Text = "O";
41
42              turn = !turn;
43              turn_count++;
44              b.Enabled = false;
45
46              checkForWinnerChickenDinner();
47
48          }
49          private void checkForWinnerChickenDinner()
50          {
51              bool there_is_a_winner = false;
52  //horizontal winner checks
53              if ((A1.Text == A2.Text) && (A2.Text == A3.Text) && (!A1.Enabled))
54                  there_is_a_winner = true;
55              else if ((B1.Text == B2.Text) && (B2.Text == B3.Text) && (!B1.Enabled))
56                  there_is_a_winner = true;
57              else if ((C1.Text == C2.Text) && (C2.Text == C3.Text) && (!C1.Enabled))
58                  there_is_a_winner = true;
59  //vertical winner checks
60              else if ((A1.Text == B1.Text) && (B1.Text == C1.Text) && (!A1.Enabled))
61                  there_is_a_winner = true;
```


File Edit View Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
WindowsFormsTicTAC
Sign in
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Form1.cs*
Form1.cs [Design]*
WindowsFormsTicTAC
WindowsFormsTicTAC.Form1
funGamesToolStripMenuItem_Click(object sender, EventArgs
there_is_a_winner = true;
else if ((A2.Text == B2.Text) && (B2.Text == C2.Text) && (!A2.Enabled))
there_is_a_winner = true;
else if ((A3.Text == B3.Text) && (B3.Text == C3.Text) && (!A3.Enabled))
there_is_a_winner = true;
//vertical winner checks
else if ((A1.Text == B2.Text) && (B2.Text == C3.Text) && (!A1.Enabled))
there_is_a_winner = true;
else if ((A3.Text == B2.Text) && (B2.Text == C1.Text) && (!C1.Enabled))
there_is_a_winner = true;
if (there_is_a_winner)
{
disableButtons();
String winner = " ";
if (turn)
winner = "O";
else
winner = "X";
MessageBox.Show(winner + " Wins!", "Hoorah!");
}//endif
else
{
if(turn_count == 9)
MessageBox.Show("You have Reached a Stalemate!", "Hoorah!");
}
}// end the checkfor
private void disableButtons()
{
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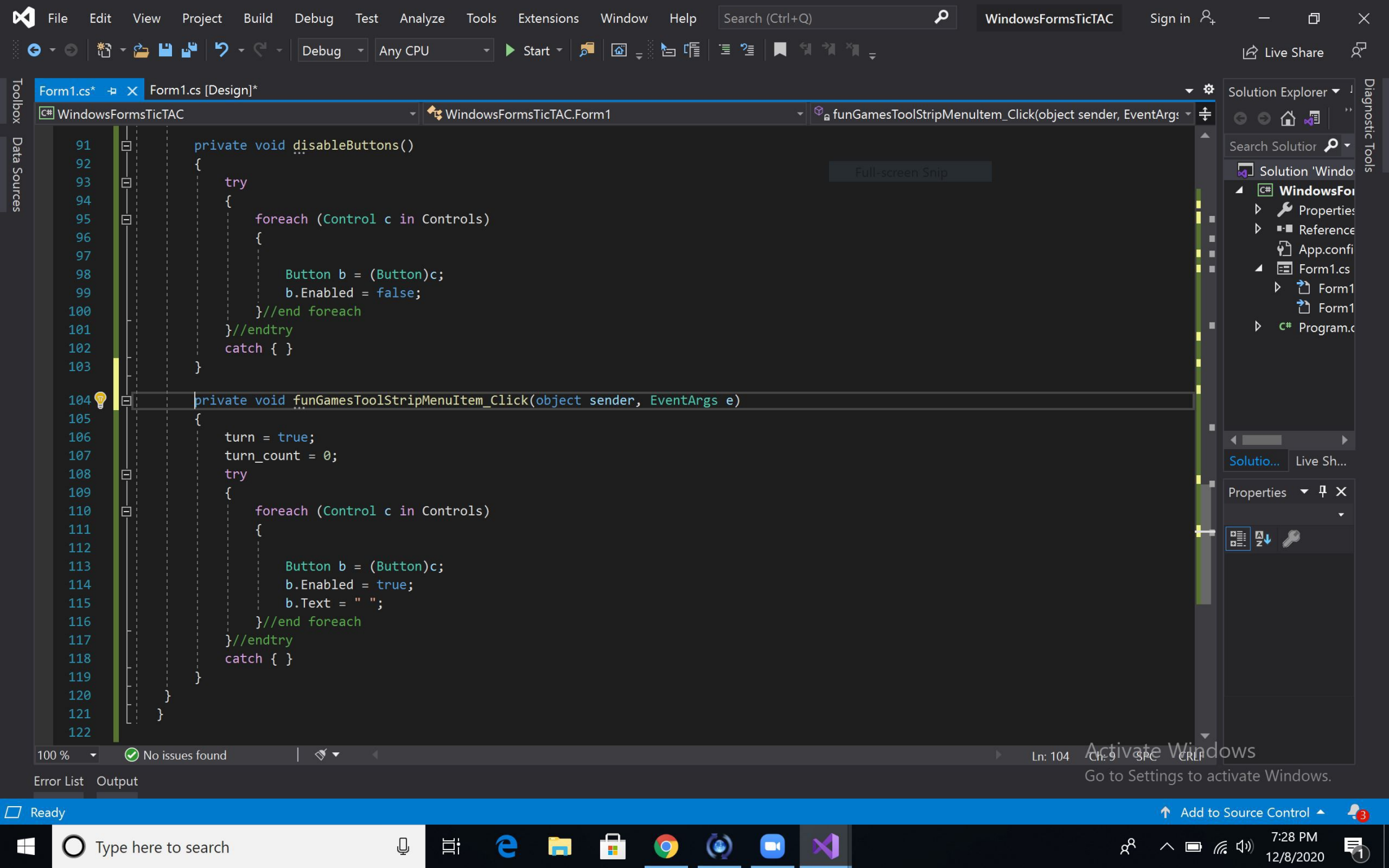


```
91          private void disableButtons()
92          {
93              try
94              {
95                  foreach (Control c in Controls)
96                  {
97
98                      Button b = (Button)c;
99                      b.Enabled = false;
100                 }//end foreach
101             }//endtry
102             catch { }
103         }
104
105         private void funGamesToolStripMenuItem_Click(object sender, EventArgs e)
106         {
107             turn = true;
108             turn_count = 0;
109             try
110             {
111                 foreach (Control c in Controls)
112                 {
113
114                     Button b = (Button)c;
115                     b.Enabled = true;
116                     b.Text = " ";
117                 }//end foreach
118             }//endtry
119             catch { }
120         }
121     }
122 }
```

Activate Windows
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File Edit View Project Build Debug Test Analyze Tools Extensions Window Help Search (Ctrl+Q) WindowsFormsTicTAC Sign in

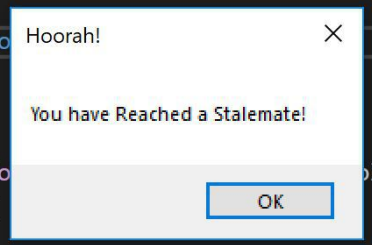
Debug Any CPU Continue Live Share

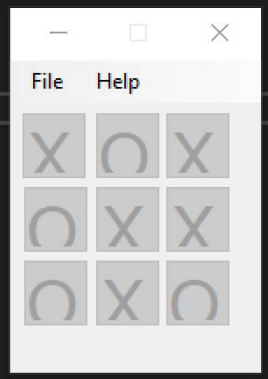
Process: [5516] WindowsFormsTicTAC.exe Lifecycle Events Thread: [11636] Main Thread Stack Frame: WindowsFormsTicTAC.Form1.disableButtc

Form1.cs Form1.cs [Design]

WindowsFormsTicTAC WindowsFormsTicTAC.Form1 disableButtons()

```
97              else
98              {
99                  if(turn_count == 9)
100                     MessageBox.Show("You have Reached a Stalemate!", "Hoorah!");
101
102             }
103
104
105         }// end the checkfor
106         private vo
107         {
108             try
109             {
110                 fo                                    ols)
111                 {
112
113                     Button b = (Button)c;
114                     b.Enabled = false;
115                 }//end foreach
```





110 % No issues found Ln: 106 Ch: 9 SPC CRLF

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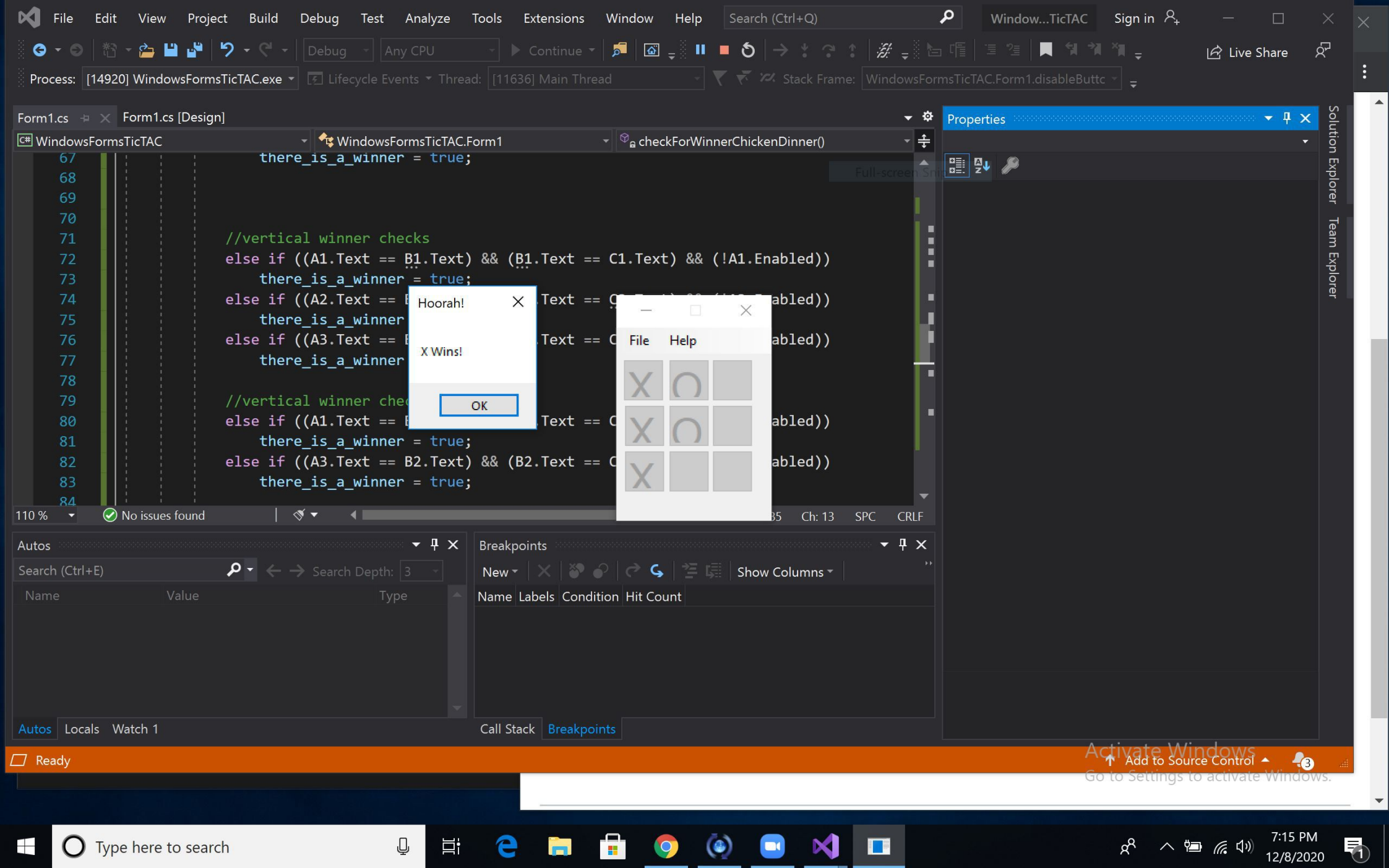
File Edit View Project Build Debug Test Analyze Tools Extensions Window Help
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Sign in
Live Share
Process: [14920] WindowsFormsTicTAC.exe
Thread: [11636] Main Thread
Form1.cs
Form1.cs [Design]
WindowsFormsTicTAC
WindowsFormsTicTAC.Form1
checkForWinnerChickenDinner()
there_is_a_winner = true;
//vertical winner checks
else if ((A1.Text == B1.Text) && (B1.Text == C1.Text) && (!A1.Enabled))
there_is_a_winner = true;
else if ((A2.Text == B2.Text) && (B2.Text == C2.Text) && (!A2.Enabled))
there_is_a_winner = true;
else if ((A3.Text == B3.Text) && (B3.Text == C3.Text) && (!A3.Enabled))
there_is_a_winner = true;
//vertical winner checks
else if ((A1.Text == B1.Text) && (B1.Text == C1.Text) && (!A1.Enabled))
there_is_a_winner = true;
else if ((A3.Text == B2.Text) && (B2.Text == C2.Text) && (!A3.Enabled))
there_is_a_winner = true;
Hoorah!
X Wins!
OK
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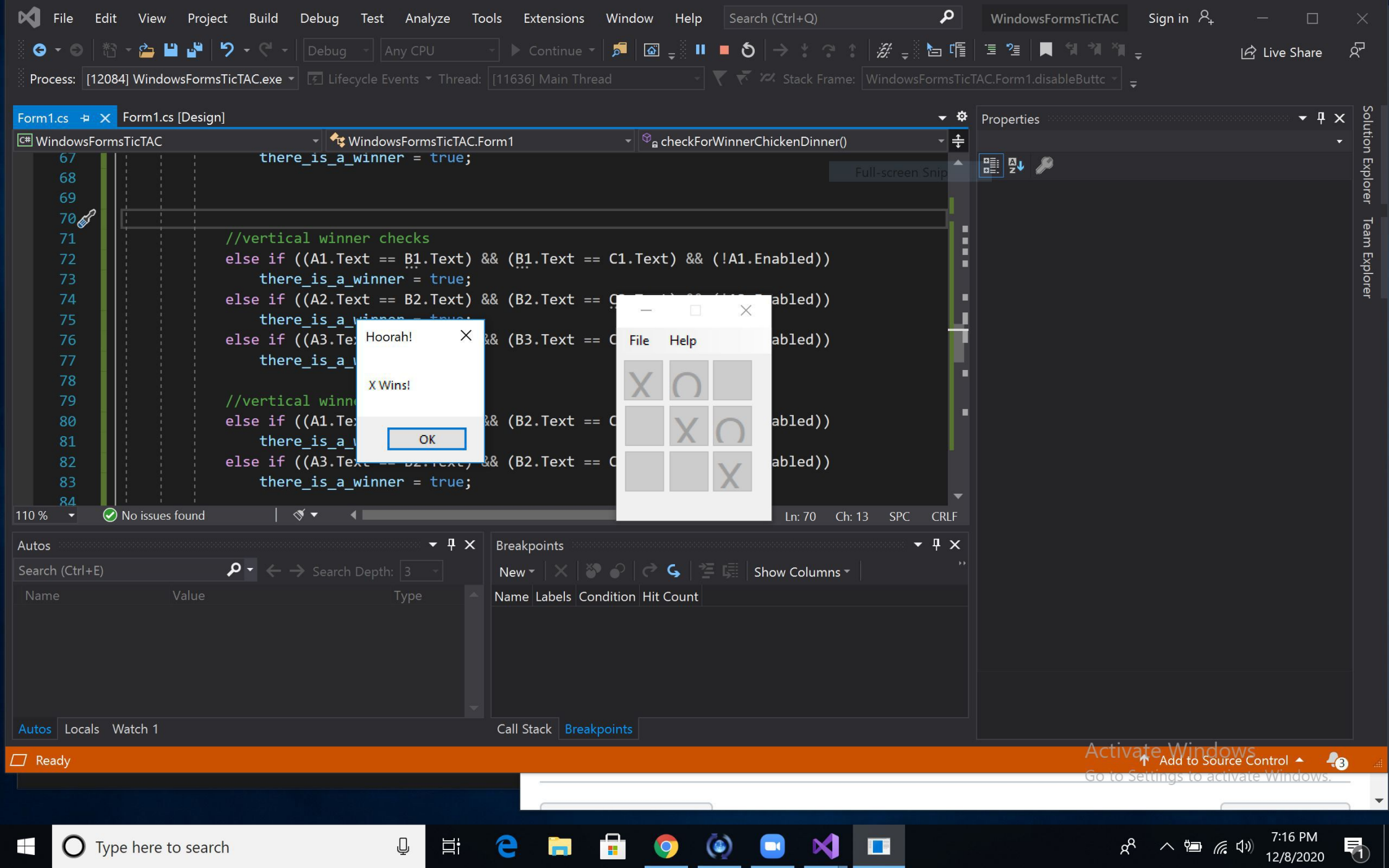
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WindowsFormsTicTAC
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Any CPU
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Process: [12084] WindowsFormsTicTAC.exe
Lifecycle Events
Thread: [11636] Main Thread
Stack Frame: WindowsFormsTicTAC.Form1.disableButtc
Form1.cs
Form1.cs [Design]
WindowsFormsTicTAC
WindowsFormsTicTAC.Form1
checkForWinnerChickenDinner()
there_is_a_winner = true;
//vertical winner checks
else if ((A1.Text == B1.Text) && (B1.Text == C1.Text) && (!A1.Enabled))
there_is_a_winner = true;
else if ((A2.Text == B2.Text) && (B2.Text ==
there_is_a_winner = true;
else if ((A3.Tex
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there_is_a_winner = true;
Hoorah!
X Wins!
OK
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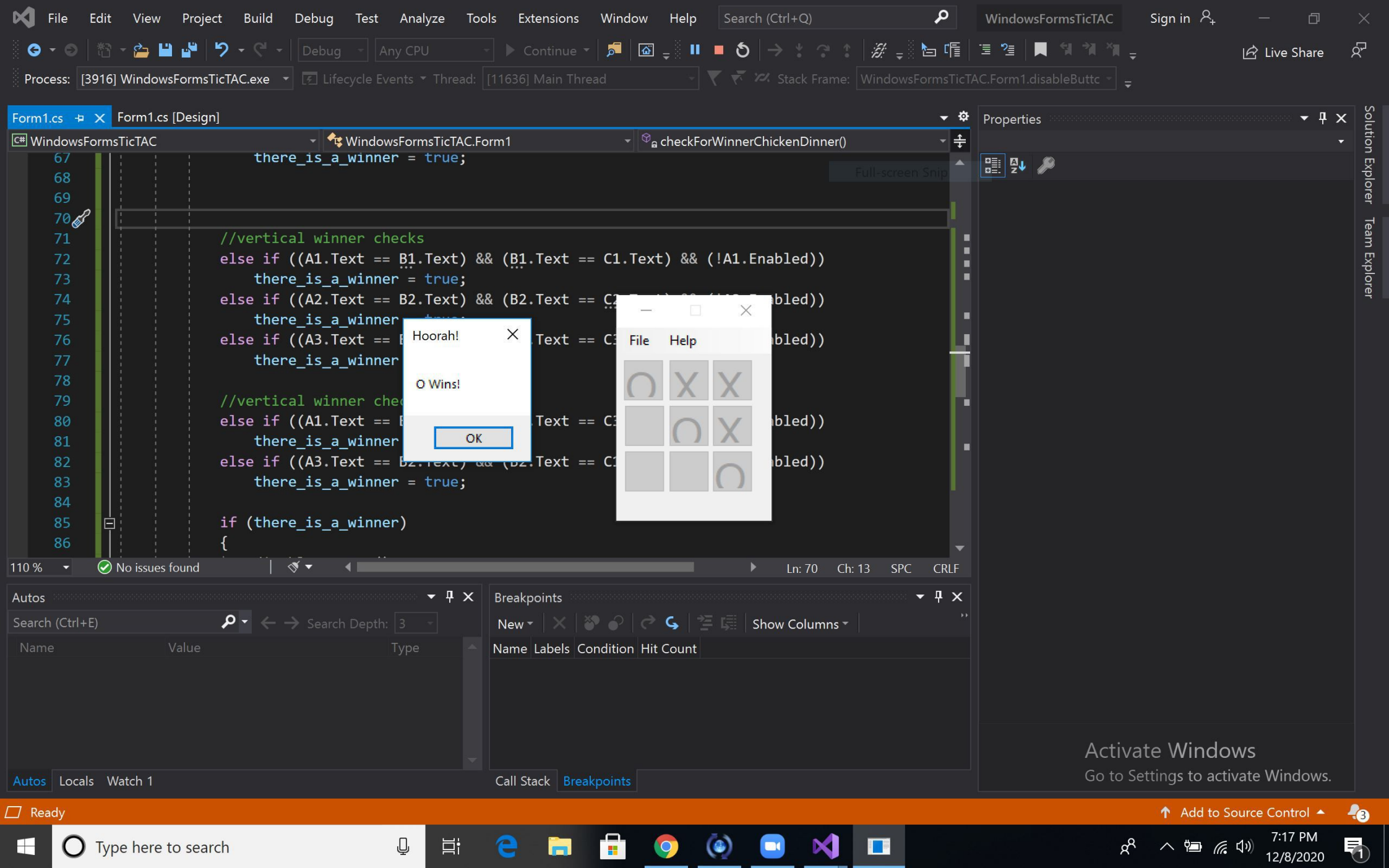
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WindowsFormsTicTAC
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Process: [3916] WindowsFormsTicTAC.exe
Lifecycle Events
Thread: [11636] Main Thread
Stack Frame: WindowsFormsTicTAC.Form1.disableButtc
Form1.cs
Form1.cs [Design]
WindowsFormsTicTAC
WindowsFormsTicTAC.Form1
checkForWinnerChickenDinner()
there_is_a_winner = true;
//vertical winner checks
else if ((A1.Text == B1.Text) && (B1.Text == C1.Text) && (!A1.Enabled))
there_is_a_winner = true;
else if ((A2.Text == B2.Text) && (B2.Text ==
there_is_a_winner
else if ((A3.Text ==
there_is_a_winner
//vertical winner
else if ((A1.Text ==
there_is_a_winner
else if ((A3.Text ==
there_is_a_winner = true;
if (there_is_a_winner)
{
Hoorah!
O Wins!
OK
File
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110 %
No issues found
Ln: 70
Ch: 13
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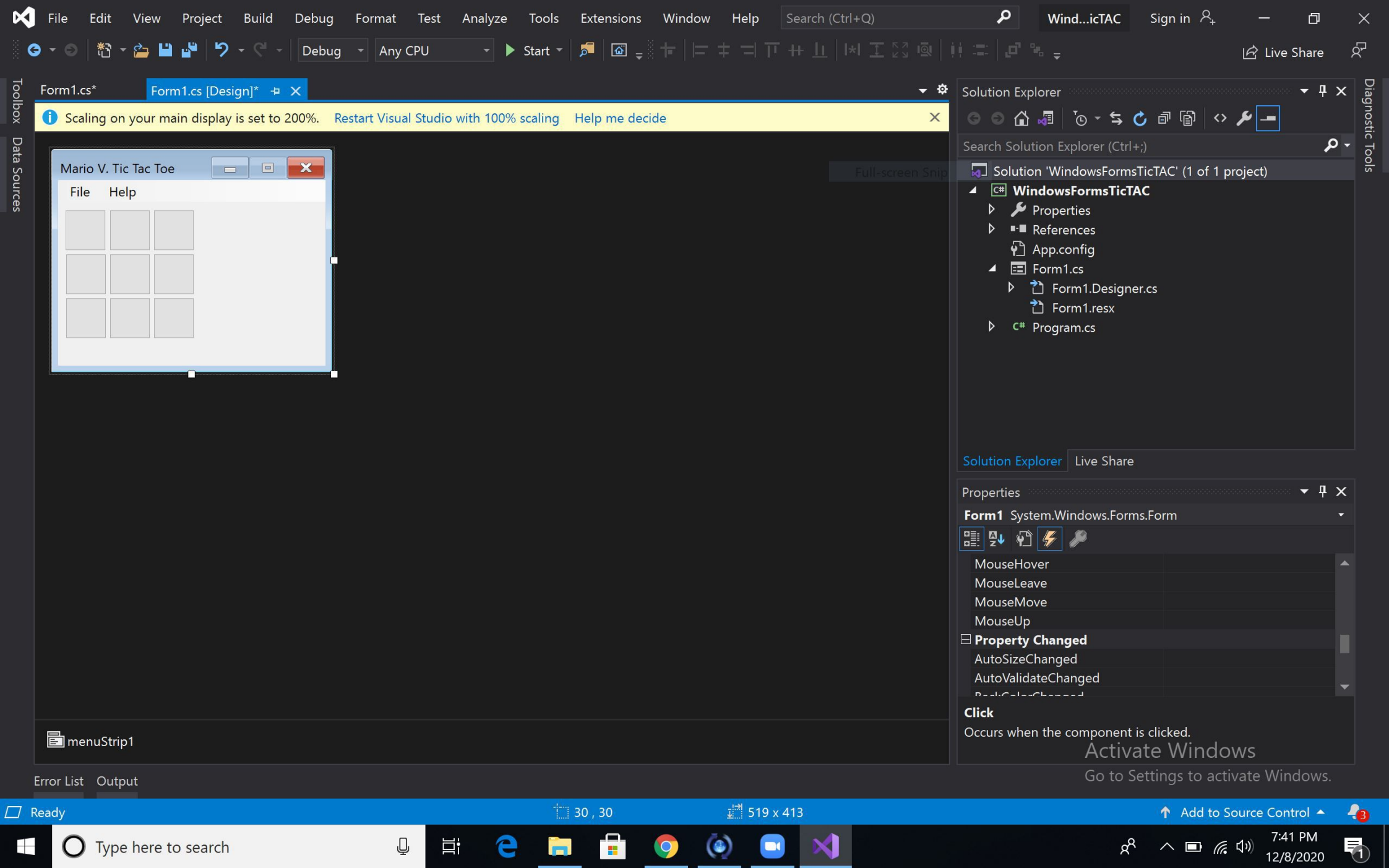
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Sign in
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Live Share
Form1.cs*
Form1.cs [Design]*
Scaling on your main display is set to 200%.
Restart Visual Studio with 100% scaling
Help me decide
Mario V. Tic Tac Toe
File
Help
menuStrip1
Solution Explorer
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WindowsFormsTicTAC
Properties
References
App.config
Form1.cs
Form1.Designer.cs
Form1.resx
Program.cs
Solution Explorer
Live Share
Properties
Form1 System.Windows.Forms.Form
MouseHover
MouseLeave
MouseMove
MouseUp
Property Changed
AutoSizeChanged
AutoValidateChanged
Click
Occurs when the component is clicked.
Activate Windows
Go to Settings to activate Windows.
Toolbox
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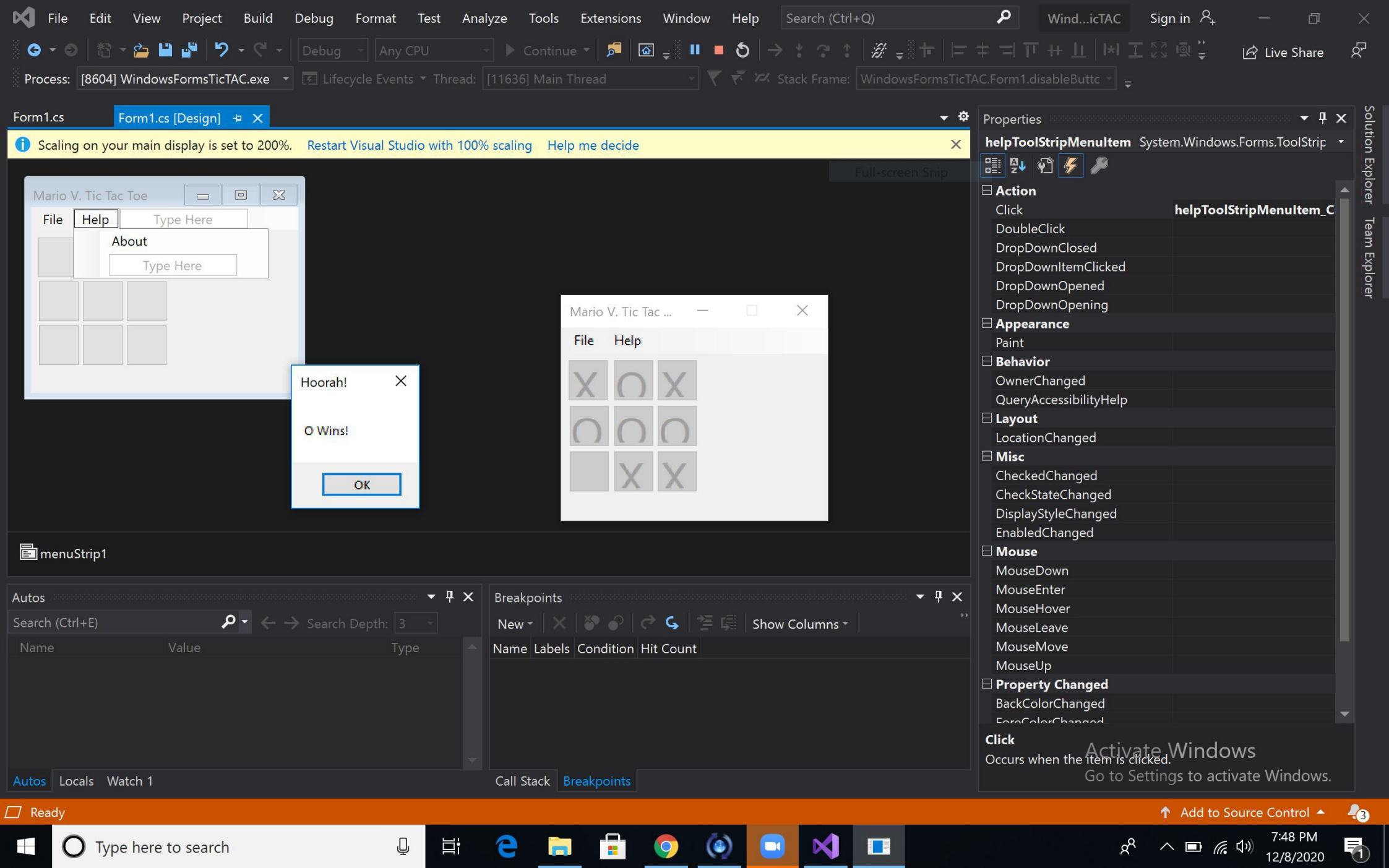
File Edit View Project Build Debug Format Test Analyze Tools Extensions Window Help
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Sign in
Live Share
Process: [8604] WindowsFormsTicTAC.exe
Thread: [11636] Main Thread
Form1.cs
Form1.cs [Design]
Scaling on your main display is set to 200%.
Restart Visual Studio with 100% scaling
Help me decide
Mario V. Tic Tac Toe
File
Help
Type Here
About
Type Here
Hoorah!
O Wins!
OK
Mario V. Tic Tac ...
File
Help
menuStrip1
Properties
helpToolStripMenuItem System.Windows.Forms.ToolStrip
Action
Click
helpToolStripMenuItem_C
DoubleClick
DropDownClosed
DropDownItemClicked
DropDownOpened
DropDownOpening
Appearance
Paint
Behavior
OwnerChanged
QueryAccessibilityHelp
Layout
LocationChanged
Misc
CheckedChanged
CheckStateChanged
DisplayStyleChanged
EnabledChanged
Mouse
MouseDown
MouseEnter
MouseHover
MouseLeave
MouseMove
MouseUp
Property Changed
BackColorChanged
Click
Occurs when the item is clicked.
Activate Windows
Go to Settings to activate Windows.
Autos
Search (Ctrl+E)
Search Depth: 3
Name
Value
Type
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Locals
Watch 1
Breakpoints
New
Show Columns
Name
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Breakpoints
Solution Explorer
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Ready
Add to Source Control
Type here to search
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