



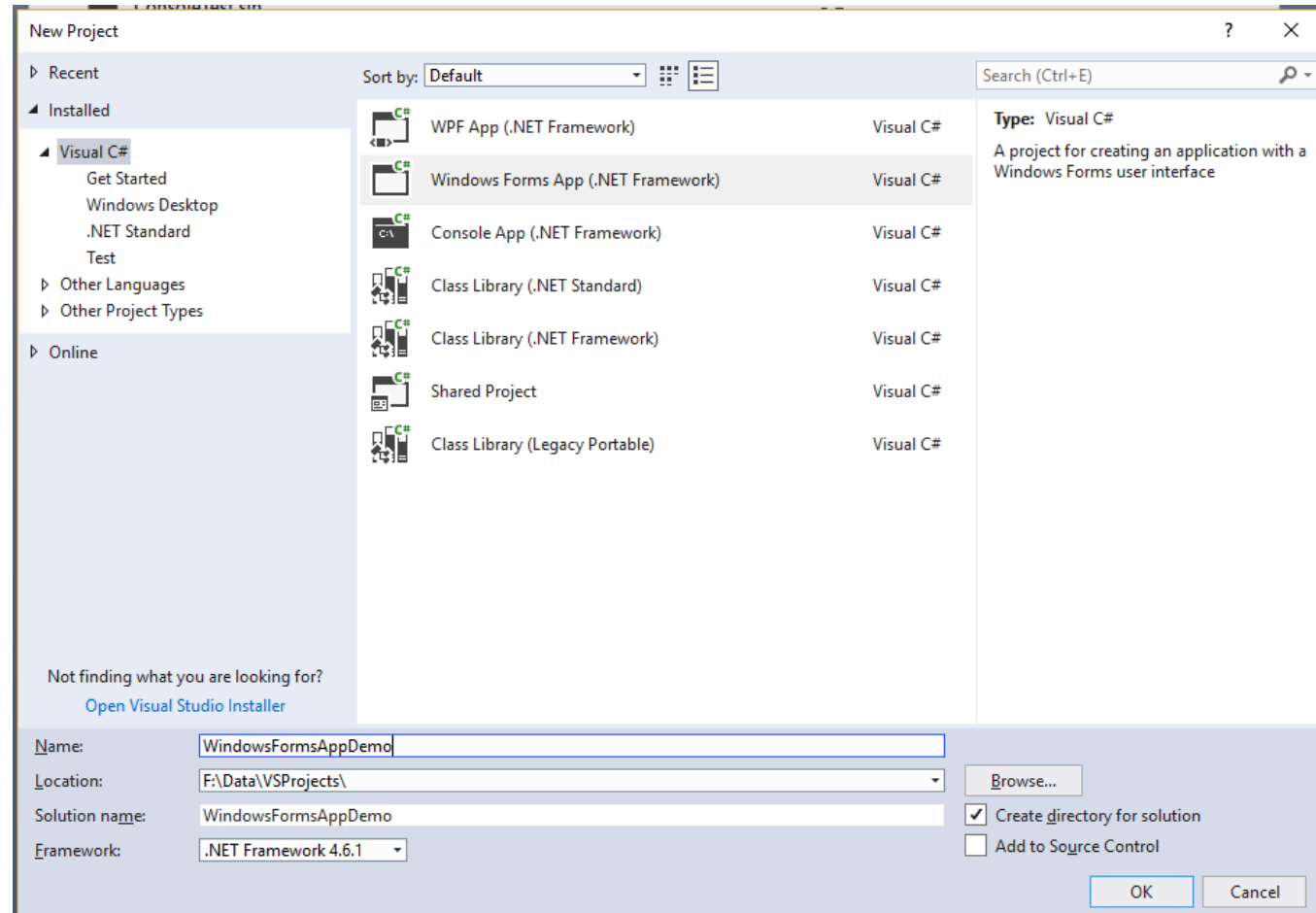
# תכנות ויזואלי 02



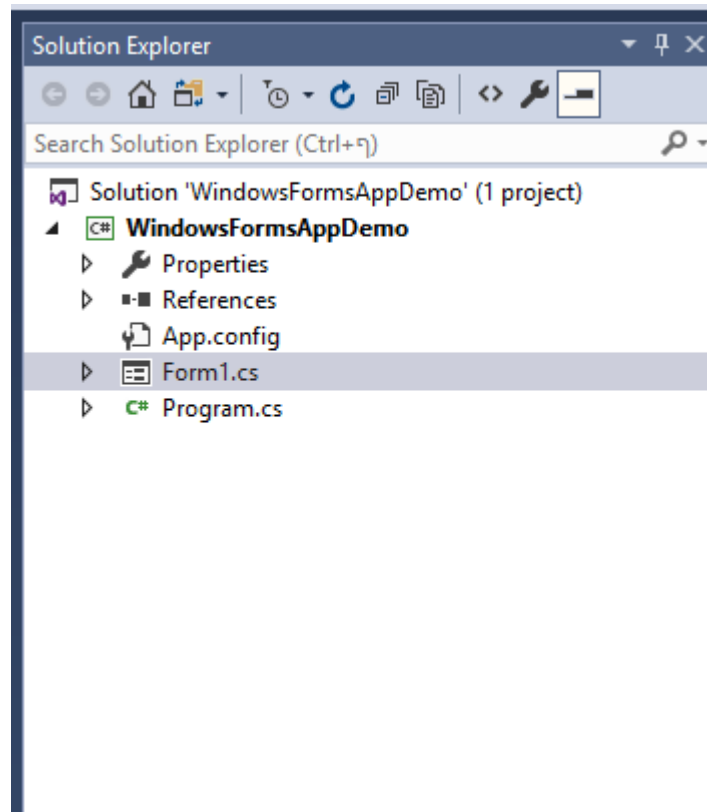
# תוכן עניינים

GUI •

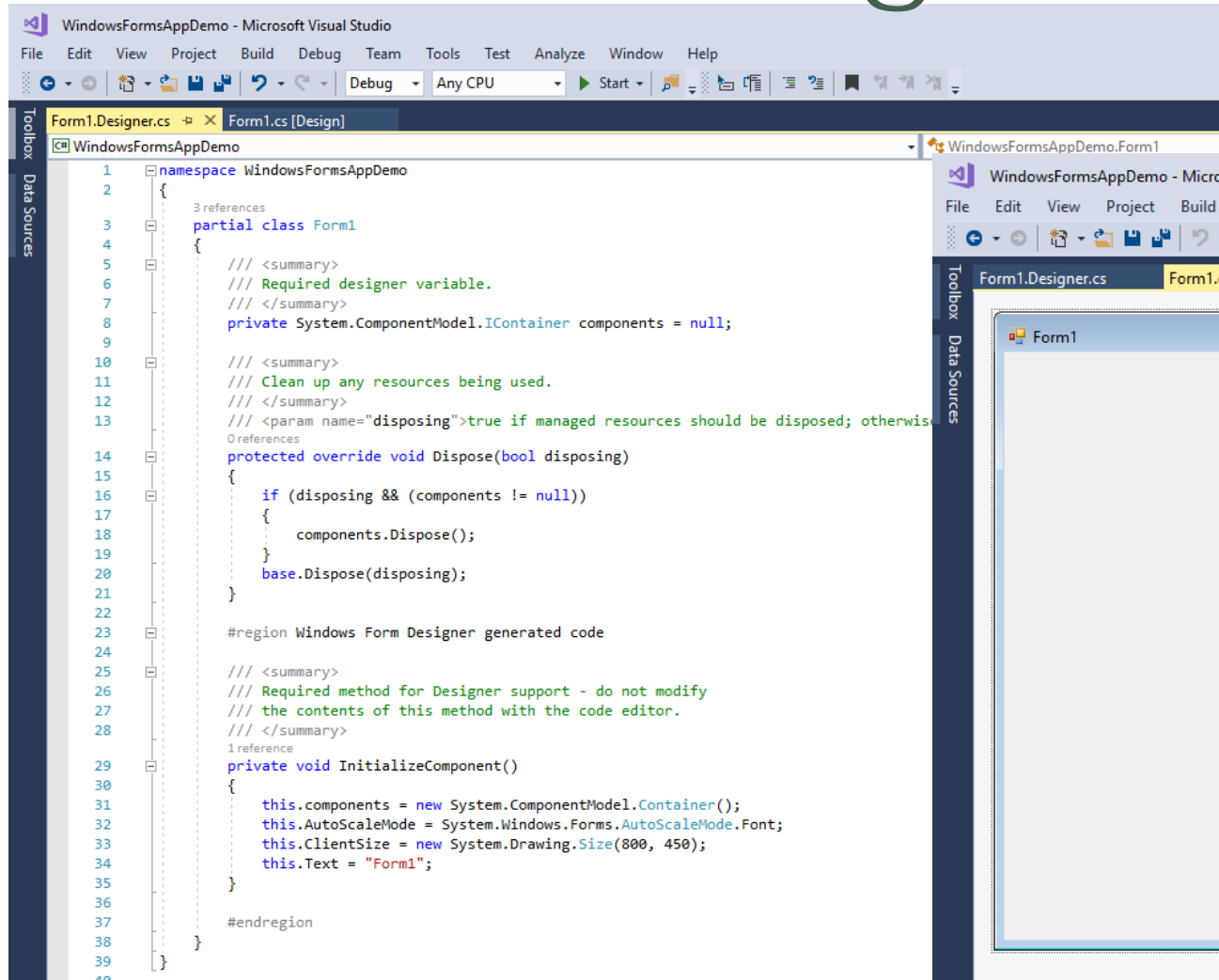
# תוכנית עם GUI



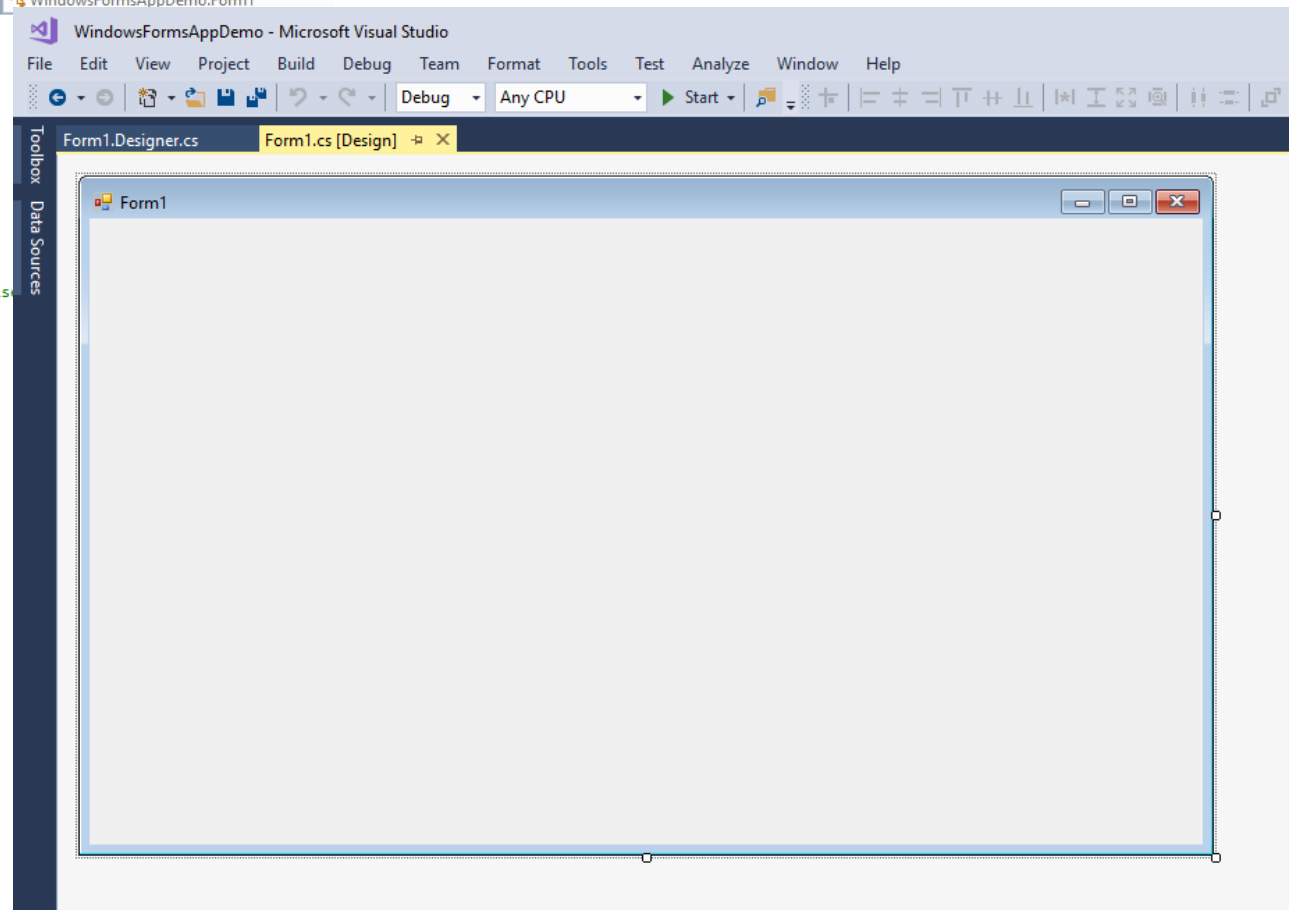
# קובץ ה- Form



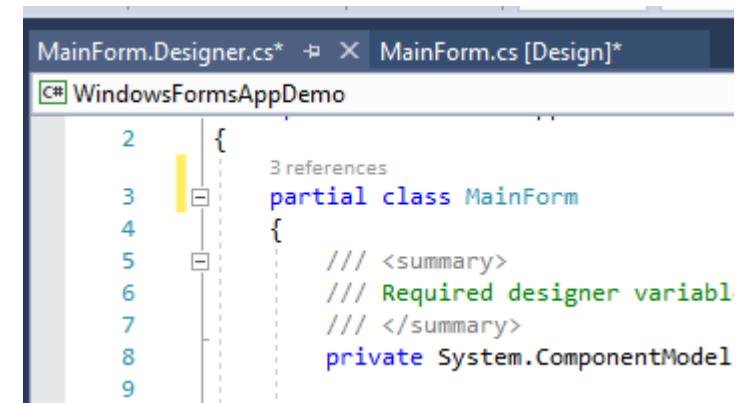
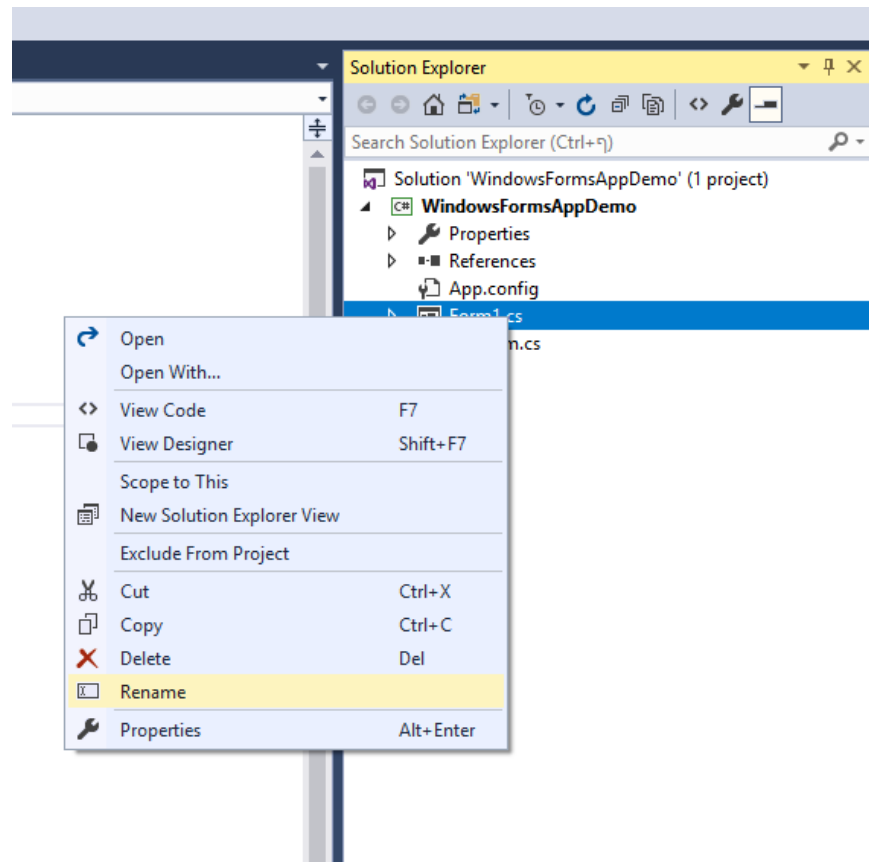
# מסך התוכנית ומסך ה- Design



```
1 namespace WindowsFormsAppDemo
2 {
3     3 references
4     partial class Form1
5     {
6         /// <summary>
7         /// Required designer variable.
8         /// </summary>
9         private System.ComponentModel.IContainer components = null;
10
11         /// <summary>
12         /// Clean up any resources being used.
13         /// </summary>
14         /// <param name="disposing">true if managed resources should be disposed; otherwise,
15         /// false; otherwise, if you are using unmanaged resources, set this to false.
16         0 references
17         protected override void Dispose(bool disposing)
18         {
19             if (disposing && (components != null))
20             {
21                 components.Dispose();
22             }
23             base.Dispose(disposing);
24         }
25
26         #region Windows Form Designer generated code
27
28         /// <summary>
29         /// Required method for Designer support - do not modify
30         /// the contents of this method with the code editor.
31         /// </summary>
32         1 reference
33         private void InitializeComponent()
34         {
35             this.components = new System.ComponentModel.Container();
36             this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;
37             this.ClientSize = new System.Drawing.Size(800, 450);
38             this.Text = "Form1";
39         }
40
41         #endregion
42     }
43 }
```



# שינוי שם קובץ ה- Form



# שינוי הכותרת של ה- Form

Properties

MainForm System.Windows.Forms.Form

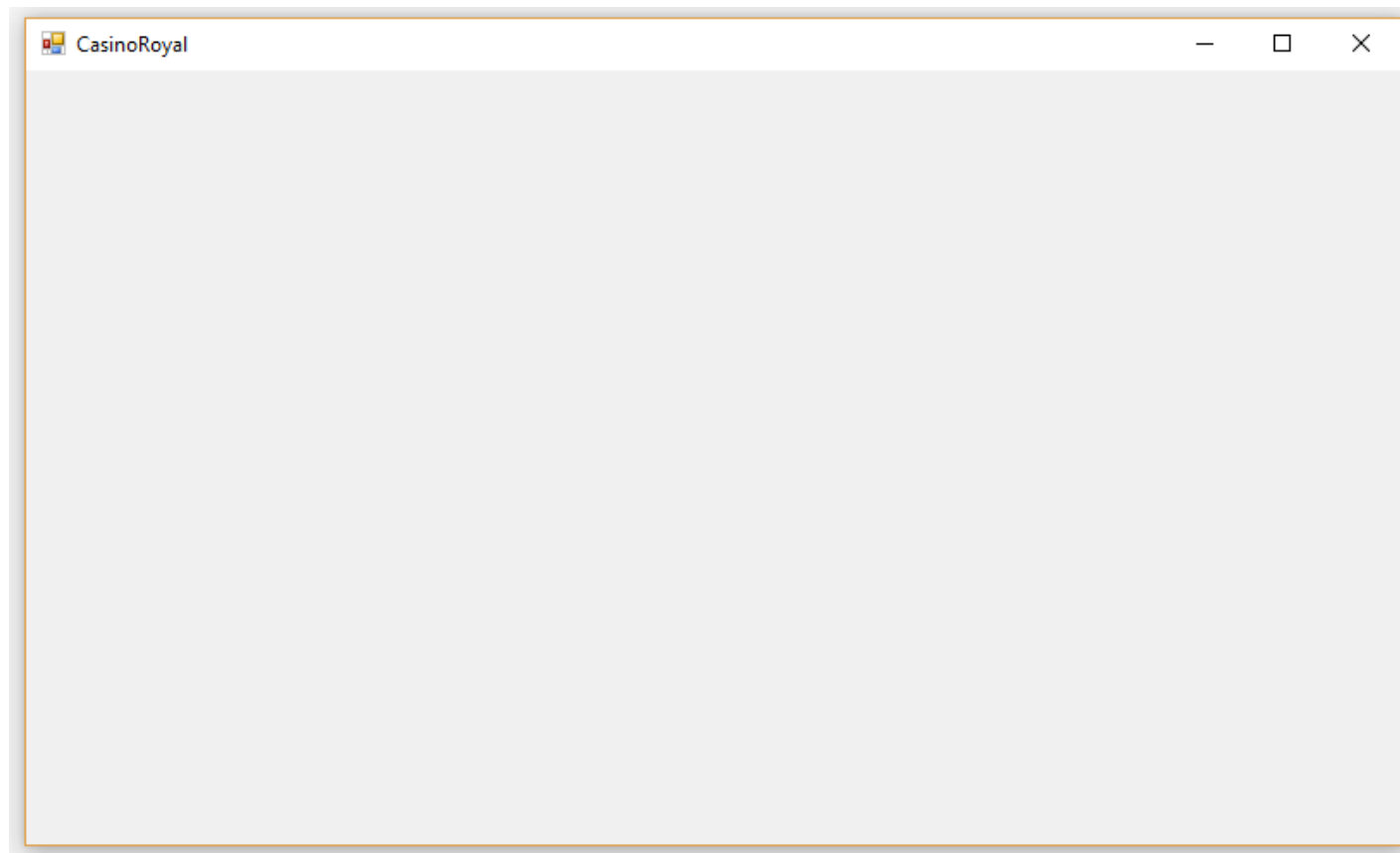
IsMdiContainer	False
KeyPreview	False
Language	(Default)
Localizable	False
Location	0, 0
Locked	False
MainMenuStrip	(none)
MaximizeBox	True
MaximumSize	0, 0
MinimizeBox	True
MinimumSize	0, 0
Opacity	100%
Padding	0, 0, 0, 0
RightToLeft	No
RightToLeftLayout	False
ShowIcon	True
ShowInTaskbar	True
Size	<b>816, 489</b>
SizeGripStyle	Auto
StartPosition	WindowsDefaultLocation
Tag	
Text	<b>Form1</b>
TopMost	False
TransparencyKey	<input type="checkbox"/>



MainForm.Designer.cs\* MainForm.cs [Design]\*

CasinoRoyal

וכשנריץ ...



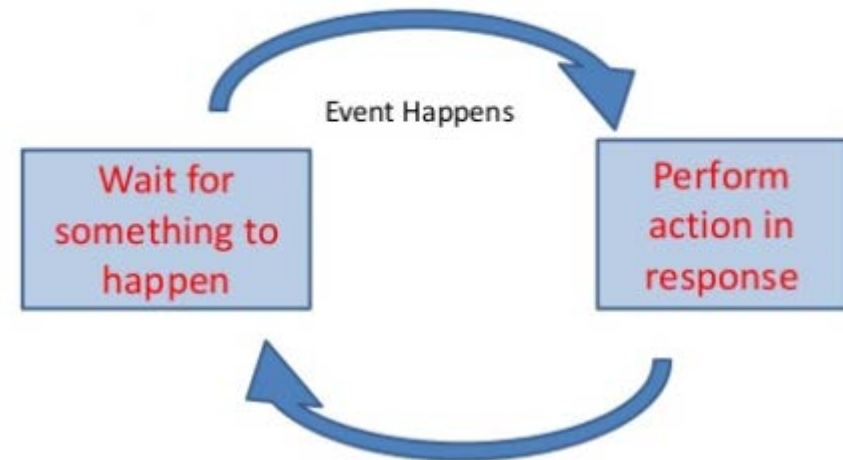


# תכנות מונחה אירועים

Old fashioned (Data Driven)  
programming



Event driven programming



# אירועים אפשריים

- אירועי GUI:

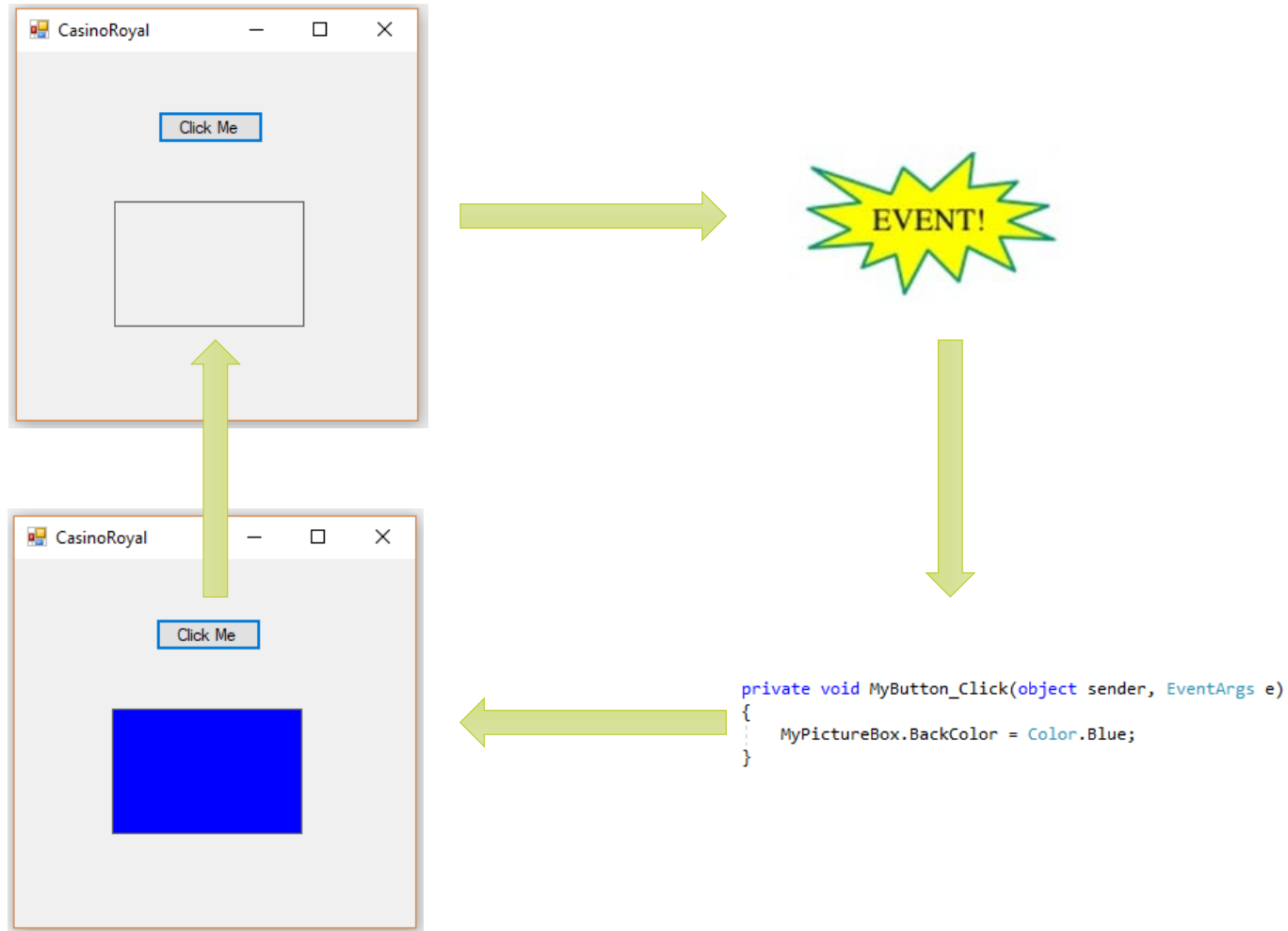
- מקש שהוקש
- לחיצה על Button
- עכבר שזז או הוקש
- נגיעה במסך מגע

- אירועים אחרים:

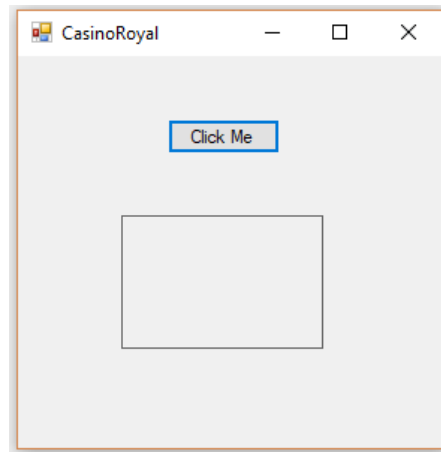
- חבילה שהגיע מהרשת
- שעון שסיים לספור זמן
- סנסור שחש בשינוי
- מכשיר שחובר למחשב
- ועוד ...

# ניהול אירועים

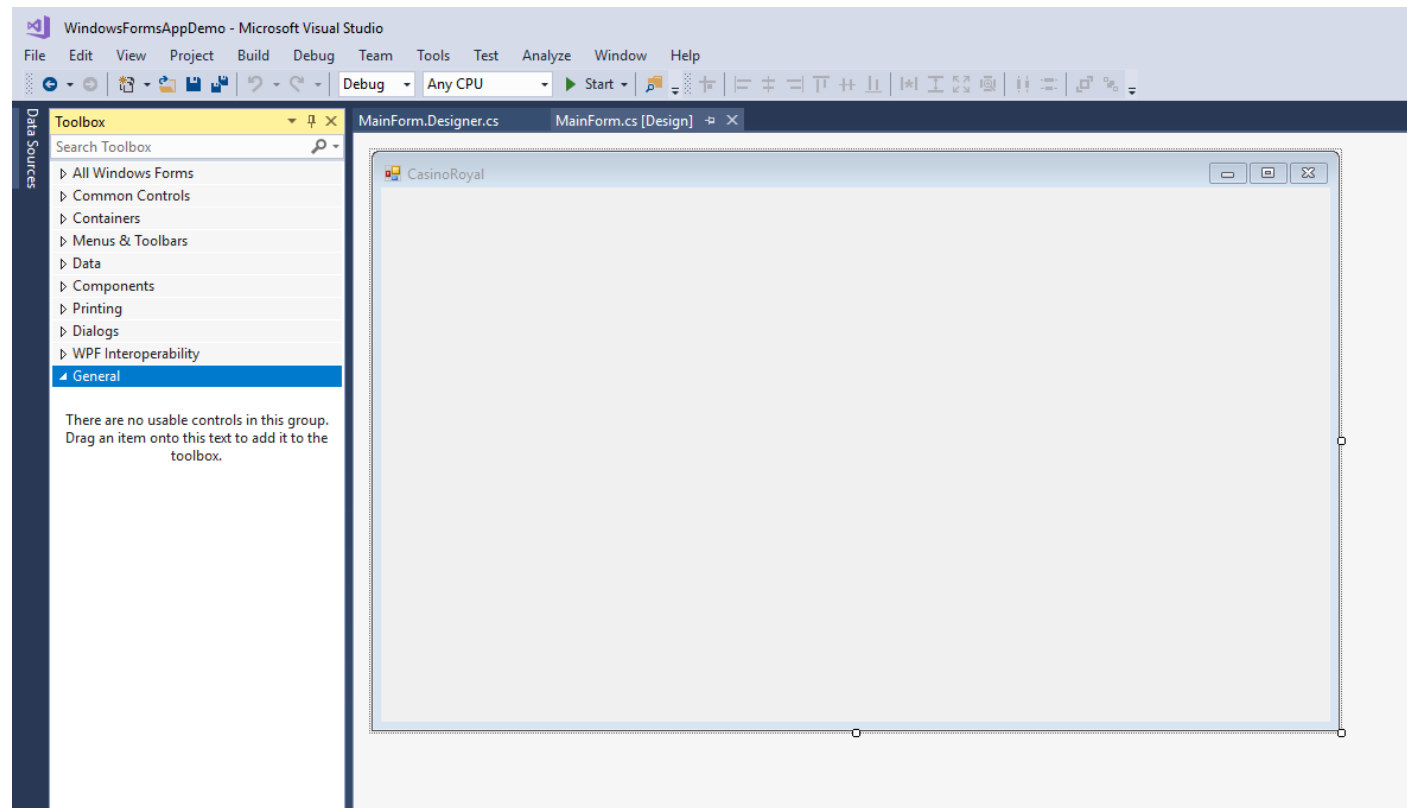
- רובצים
- מקבלים
- מטפלים
- וחוזרים לרבוץ



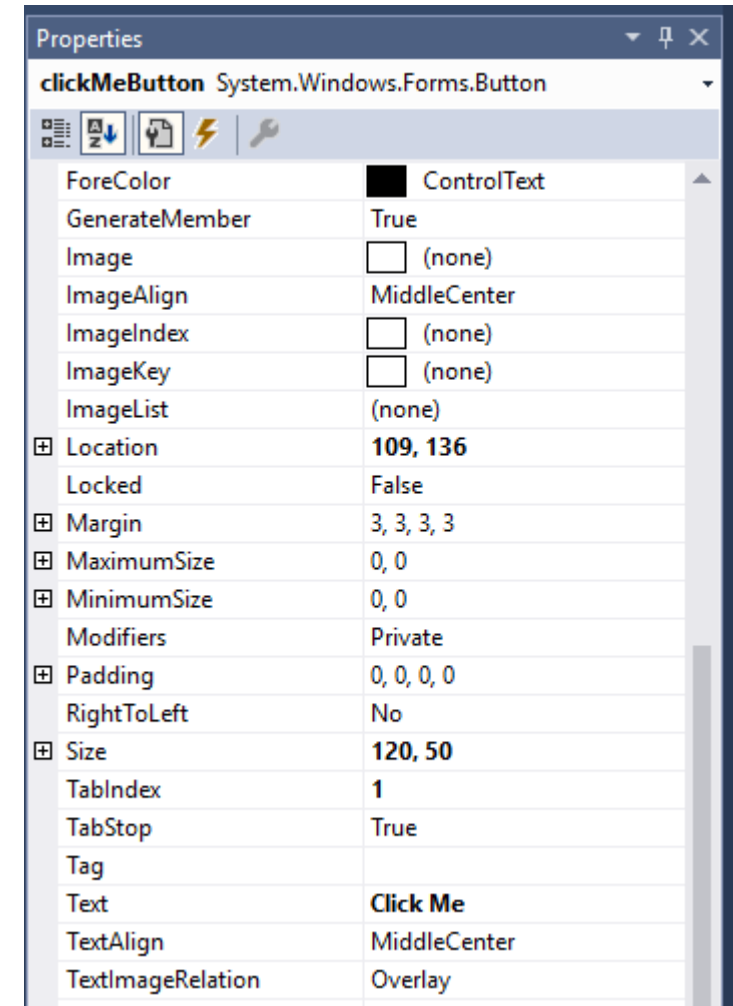
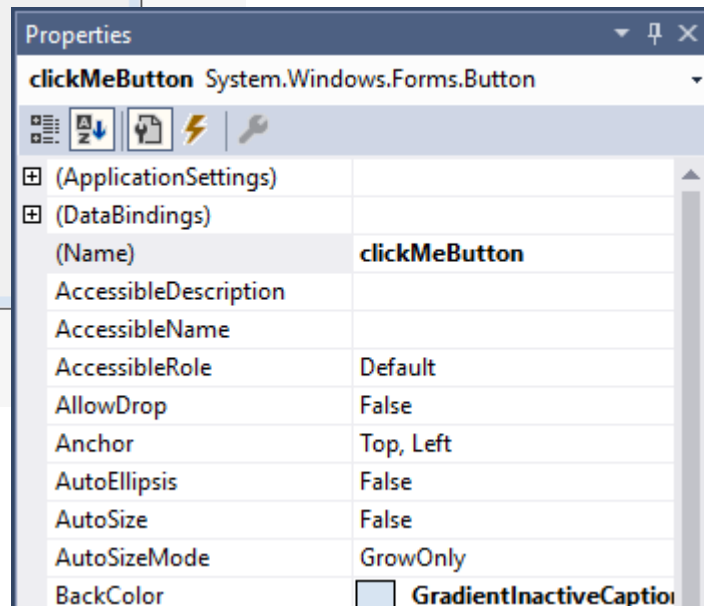
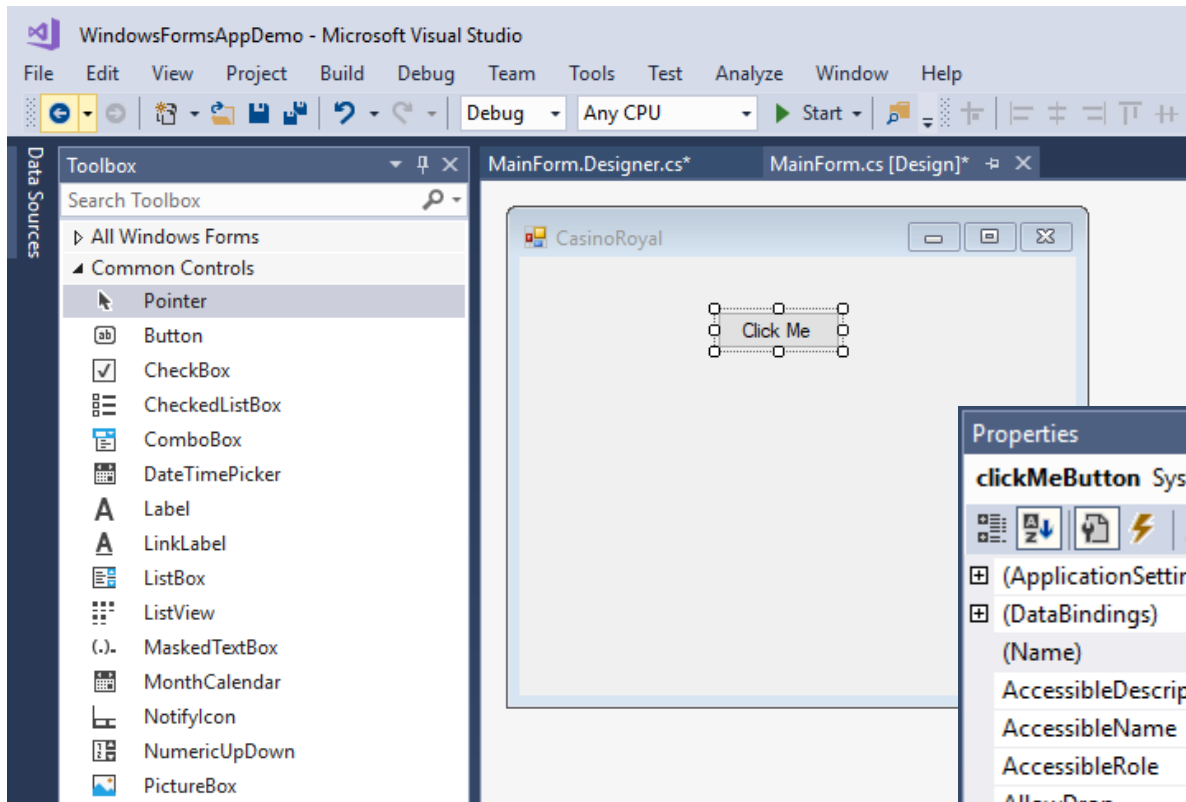
# פקדים - Controls



# הוספת פקדים



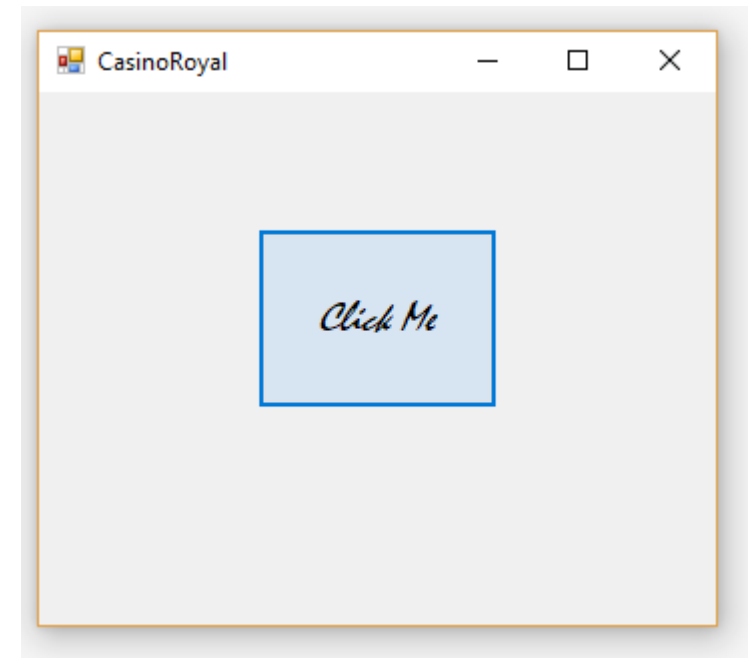
# נוסיף כפתור - Button



# תכונות נוספות

- <https://docs.microsoft.com/en-us/dotnet/api/system.windows.controls.button?view=netframework-4.7.2>

Property Name	Description
BackColor	Gets or sets the background color for the control
Enabled	Gets or sets whether the control is enabled
Font	Gets or sets the current font for the control
ForeColor	Gets or sets the foreground color of the control
Name	Gets or sets the name of the control
Size	Gets or sets the size of the control
Text	Gets or sets the text associated with the control
Visible	Gets or sets a value indicating whether the control is visible

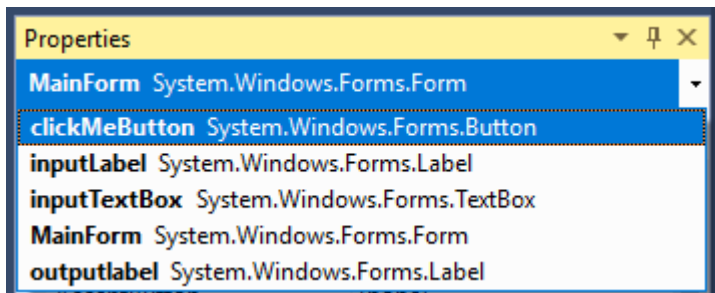


# הוספת תוויות (Labels) ותיבות טקסט (Textboxes)

עבור label עם טקסט בעברית

RightToLeft

Yes

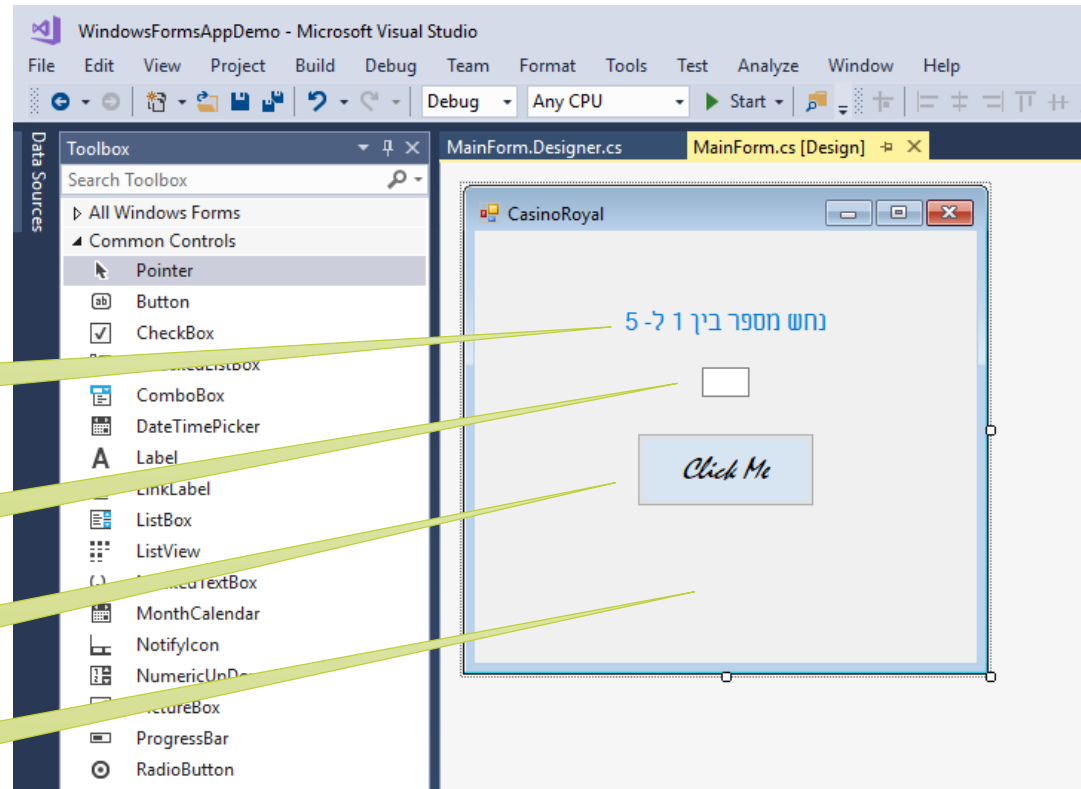


Label

TextBox

Button

Hidden Label

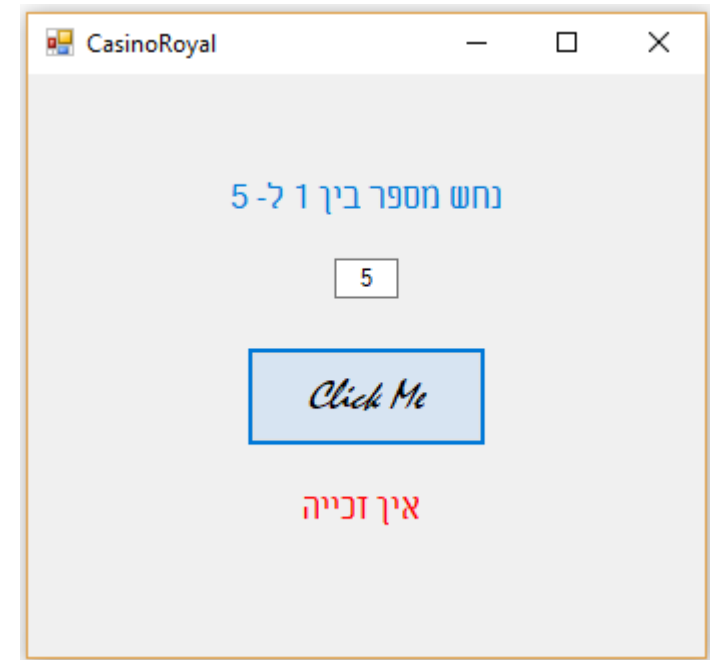
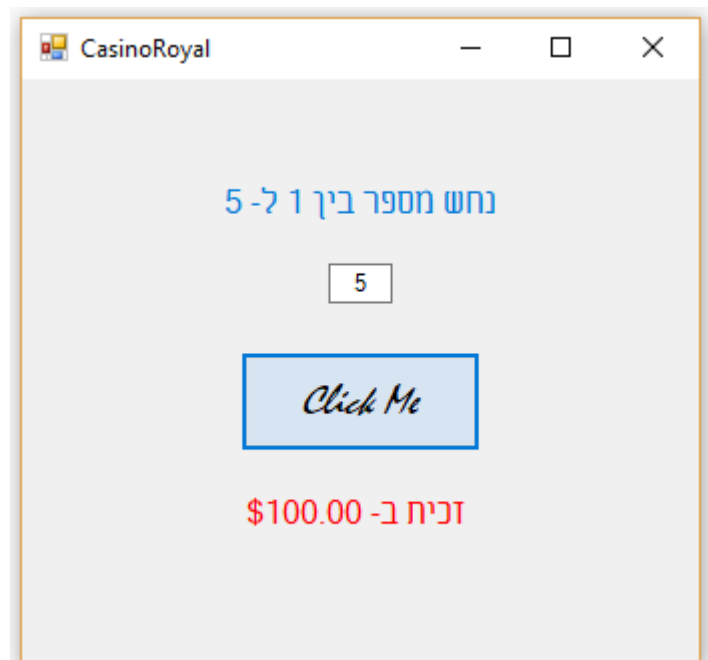




# הוספת קוד שמטפל בלחיצה על ה-Button

```
private void ClickMeButton_Click(object sender, EventArgs e)
{
    outputlabel.Text = "אין זכייה";
    int rand = new Random().Next(1, 6);
    int num;
    if (int.TryParse(inputTextBox.Text, out num) && num == rand)
        outputlabel.Text = 100.ToString("C") + " - " + "זכית ב";
    int x = (Size.Width - outputlabel.Size.Width) / 2;
    outputlabel.Location = new Point(x-10, outputlabel.Location.Y);
    outputlabel.Visible = true;
}
```

# הרצה



# תכונות שכיחות של Labels

Common Label properties	Description
Font	The font of the text on the Label.
Text	The text on the Label.
TextAlign	The alignment of the Label's text on the control—horizontally (left, center or right) and vertically (top, middle or bottom). The default is top, left.

# תכונות ואירועים שכיחים של TextBox

TextBox properties and an event	Description
<i>Common Properties</i>	
AcceptsReturn	If <code>true</code> in a multiline <code>TextBox</code> , pressing <i>Enter</i> in the <code>TextBox</code> creates a new line. If <code>false</code> (the default), pressing <i>Enter</i> is the same as pressing the default <code>Button</code> on the <code>Form</code> . The default <code>Button</code> is the one assigned to a <code>Form</code> 's <code>AcceptButton</code> property.
Multiline	If <code>true</code> , the <code>TextBox</code> can span multiple lines. The default value is <code>false</code> .
ReadOnly	If <code>true</code> , the <code>TextBox</code> has a gray background, and its text cannot be edited. The default value is <code>false</code> .
ScrollBars	For multiline textboxes, this property indicates which scrollbars appear ( <code>None</code> —the default, <code>Horizontal</code> , <code>Vertical</code> or <code>Both</code> ).
Text	The <code>TextBox</code> 's text content.
UseSystemPasswordChar	When <code>true</code> , the <code>TextBox</code> becomes a password <code>TextBox</code> , and the system-specified character masks each character the user types.
<i>Common Event</i>	
TextChanged	Generated when the text changes in a <code>TextBox</code> (i.e., when the user adds or deletes characters). When you double click the <code>TextBox</code> control in <b>Design</b> mode, an empty event handler for this event is generated.

# תכונות ואירועים שכיחים של Button

Button properties and an event	Description
<i>Common Properties</i>	
Text	Specifies the text displayed on the Button face.
FlatStyle	Modifies a Button's appearance—Flat (for the Button to display without a three-dimensional appearance), Popup (for the Button to appear flat until the user moves the mouse pointer over the Button), Standard (three-dimensional) and System, where the Button's appearance is controlled by the operating system. The default value is Standard.
<i>Common Event</i>	
Click	Generated when the user clicks the Button. When you double click a Button in design view, an empty event handler for this event is created.

# עבודת הגשה 3

1. Write a GUI program named **PayrollGUI** that prompts the user for

1. name
2. social security number
3. hourly pay rate
4. number of hours worked

In an attractive format, display

1. all the input data
2. gross pay, defined as hourly pay rate times hours worked
3. federal withholding tax, defined as 15 percent of the gross pay
4. state withholding tax, defined as 5 percent of the gross pay
5. net pay, defined as gross pay minus taxes

2. כתבו גרסת GUI בשם GreenvilleRevenueGUI\_01 ל-GreenvilleRevenue

3. כתבו גרסת GUI בשם MarshallsRevenueGUI\_01 ל-MarshallsRevenue

• **שימו לב:** יש לעבוד "נקי" (לתת שמות מתאימים, להשתמש בפורמטים מתאימים של ToString וכדומה)

# עבודת הגשה 3

Payroll Sheet

Name:

Social Security No.:

Hourly Pay Rate:

Worked Hours

Calc

Payroll Sheet

Name:

Social Security No.:

Hourly Pay Rate:

Worked Hours

Calc

Payroll Sheet

Name:

Social Security No.:

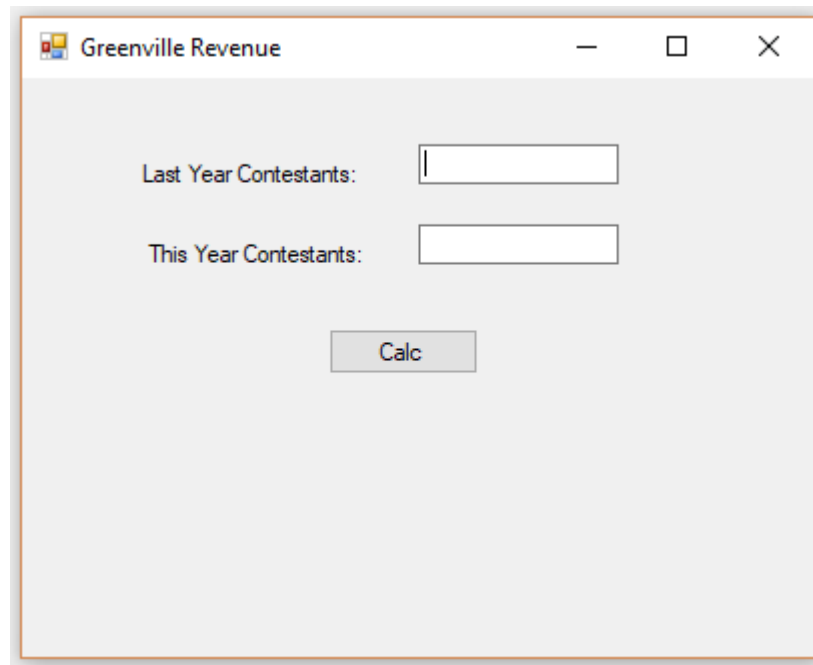
Hourly Pay Rate:

Worked Hours

Calc

Name: Haim  
Social Security No.: 12321  
Hourly Pay Rate: 100  
Worked Hours: 75  
Gross Pay: 7500  
Federal Tax: £1,125.00  
State Tax: £375.00  
Net Pay: £6,000.00

# עבודת הגשה 3

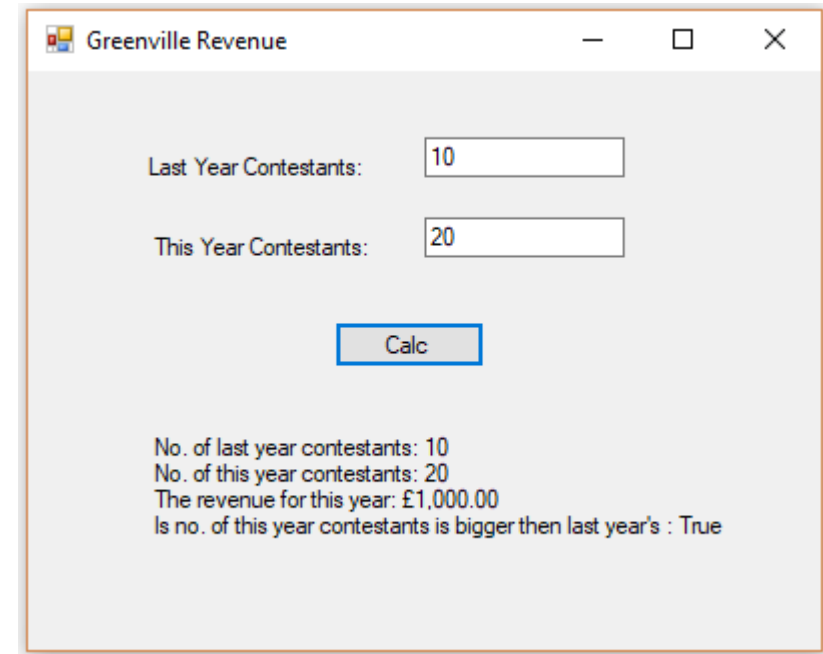


Greenville Revenue

Last Year Contestants:

This Year Contestants:

Calc



Greenville Revenue

Last Year Contestants:

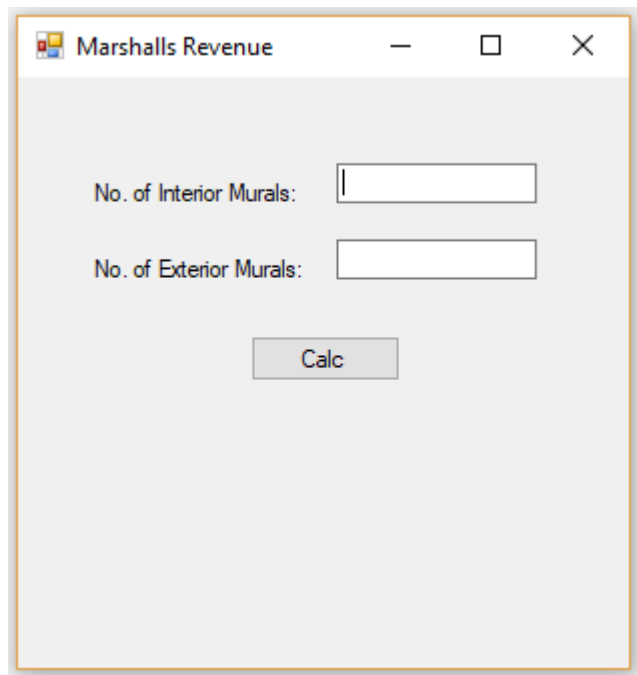
This Year Contestants:

Calc

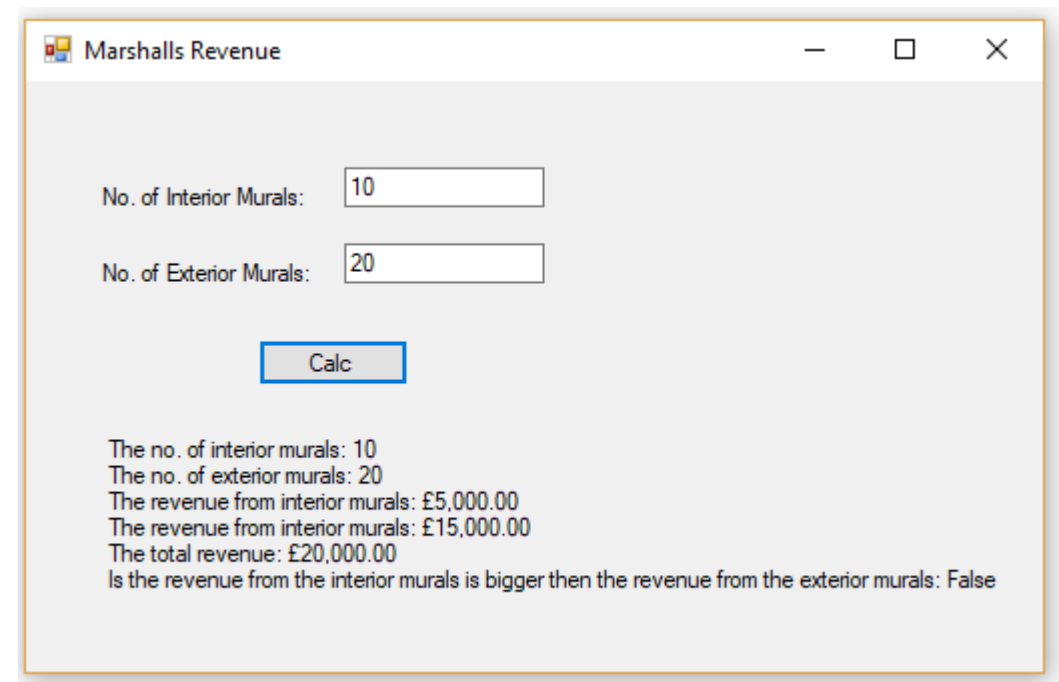
No. of last year contestants: 10  
No. of this year contestants: 20  
The revenue for this year: £1,000.00  
Is no. of this year contestants is bigger then last year's : True



# עבודת הגשה 3



The screenshot shows a window titled "Marshalls Revenue" with a standard Windows title bar (minimize, maximize, close buttons). Inside the window, there are two labels with corresponding text input fields: "No. of Interior Murals:" and "No. of Exterior Murals:". Below these fields is a button labeled "Calc".



The screenshot shows the same "Marshalls Revenue" window, but now with numerical values entered in the input fields: "10" for interior murals and "20" for exterior murals. The "Calc" button is highlighted with a blue border. Below the button, the following text is displayed:

The no. of interior murals: 10  
The no. of exterior murals: 20  
The revenue from interior murals: £5,000.00  
The revenue from interior murals: £15,000.00  
The total revenue: £20,000.00  
Is the revenue from the interior murals is bigger then the revenue from the exterior murals: False

# תרגילים נוספים (לא להגשה)

1. Write a GUI program named **MilesToKilometersGUI** that allows the user to input a distance in miles and output the value in kilometers. There are 1.6 kilometers in a mile.
2. Write a GUI program named **ProjectedRaisesGUI** that allows a user to enter an employee's salary. Then display, with explanatory text, next year's salary, which reflects a 4 percent increase.
3. Write a program named **CarRentalInteractiveGUI** that prompts a user for days and miles for a car rental and displays the total rental fee computed as \$20 per day plus 25 cents per mile.
4. Write a GUI program named **EggsInteractiveGUI** that allows a user to input the number of eggs produced in a month by each of five chickens. Sum the eggs, then display the total in dozens and eggs. For example, a total of 127 eggs is 10 dozen and 7 eggs.
5. Write a GUI program named **TestsInteractiveGUI** that allows a user to enter scores for five tests he has taken. Display the average of the test scores to two decimal places.
6. Write a GUI program named **MonthNamesGUI** that prompts the user for a month integer. Convert the user's entry to a Month name, and display it.
7. Pig Latin is a nonsense language. To create a word in pig Latin, you remove the first letter and then add the first letter and *ay* at the end of the word. For example, *dog* becomes *ogday*, and *cat* becomes *atcay*. Write a GUI program named **PigLatinGUI** that allows the user to enter a word and displays the pig Latin version.