



CSC317 Visual Programming: Day 01

- Attendance/download Day01 from D2L
- PowerPoint with Illustrations: Visual Basic Express 2010
- Demo Problem: Blinking Square
- Practice Problem: Moving Square



CSC317 Visual Programming: Day 01

- **FOR EACH NEW PROJECT:**

- Launch Visual Basic Express 2010 (also a free download)
- Create New Project
- Use Toolbox to create objects in form/window class
- Use Properties window to set object properties, such as text, color, size, and location
- Save in folder for day (Day01, Day02, etc.)
- Use Code window to attach methods to objects
- Run/debug project/program



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- **Launch Visual Basic Express 2010 (also a free download)**
- **Create New Project**
- **Use Toolbox to create objects in form/window class**



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Demo Project: Blinking Square

- **Form1 (the window) is an object automatically created**
- **Use Toolbox to create objects in form/window class**
 - **Label (for Square)**
 - **Button (for Exit)**
 - **Timer (to cause blinking effect)**
- **Use Properties window to set object properties, such as name, text, color, size, and location**



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Demo Project: Blinking Square

If the Properties window is not showing, use View Menu – Properties or right click on the form or one of its objects and select Properties

- For the form itself, let the name remain as form1.
- For the Text property, enter
 - **Click the Square to start blinking & to stop blinking**
 - This becomes the caption in the title bar
- The caption does not fit in the title bar, so
 - Change the Size property to 500,500
- For the Color property, select BackColor, Web colors tab, then Aqua



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Demo Project: Blinking Square

- Save in new folder called **Demos**
- **EXTREMELY IMPORTANT:**
 - You have **ONLY ONE** chance to name it!
 - Name it **BlinkingSquare**



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Demo Project: Blinking Square

- Go to the Toolbox to get objects into your window
 - Drag a Label from the Toolbox to your window
 - Change properties
 - Name = Square
 - BackColor=Red, ForeColor=Red
 - Text does not matter!
 - Change Autosize to False
 - This normally is used to fit the label's text
 - Size =50,50 (a square)



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Demo Project: Blinking Square

- Another object from the Toolbox
 - Drag a Button from the Toolbox to your window
 - Change properties
 - Name = btnExit
 - Text = **EXIT**
 - Font = Bold 16
 - Size: drag the handles to resize so the text fits!
 - Location: drag the button to center it



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Demo Project: Blinking Square

- One more object from the Toolbox
 - Drag a Timer from the Toolbox to your window
 - It automatically positions **BELOW** your window, out of sight, in the Component Tray
 - Change properties
 - Name = leave it as Timer1
 - Interval = 500 (milliseconds)
 - This is how often the timer “ticks” when its Enabled property is set to be True
 - The default for Enabled is False – we will program Enabled to toggle between False and True when we click on the Square.



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Demo Project: Blinking Square

Now use View Menu – Code in order to write the code for the project

- You will attach methods to each of the objects in one of two ways:**

- In the design window, double-click the object**

- In the code window, pull down the object name on the left and the method name on the right**



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Demo Project: Blinking Square

For the EXIT button code:

- Pull down btnExit on the left
- Pull down Click on the right
- Enter Me.Close below Private Sub

You now should have:

```
Public Class Form1
```

```
    Private Sub btnExit_Click(ByVal sender As Object, ByVal  
e As System.EventArgs) Handles btnExit.Click
```

```
        Me.Close()
```

```
    End Sub
```

```
End Class
```



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Demo Project: Blinking Square

For the Square code:

```
Private Sub Square_Click(ByVal sender As Object, ByVal e As  
System.EventArgs) Handles Square.Click  
    If Timer1.Enabled Then  
        Timer1.Enabled = False 'toggle  
    Else  
        Timer1.Enabled = True  
    End If  
End Sub
```

Use **Intellisense** whenever possible!

Note: put comments after a single quote 'in green



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Demo Project: Blinking Square

We have just used the IF decision control structure with the format:

```
If condition Then  
    statements(s)  
Else  
    statements(s)  
End If
```

(The Else and accompanying statements may be omitted.)



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Demo Project: Blinking Square

For the Timer1 code:

```
Private Sub Timer1_Tick(ByVal sender As Object, ByVal  
e As System.EventArgs) Handles Timer1.Tick  
    If Square.Visible Then  
        Square.Visible = False 'toggle  
    Else  
        Square.Visible = True  
    End If  
End Sub
```

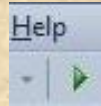


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Demo Project: Blinking Square

You are finally ready to run/debug your project/program!

Use the triangle Start/Debug button below the help menu:



Now let us turn to a practice project!



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Practice Project: Moving Square

- You will name this project **MovingSquare** and save it in your **Day01** folder.
- It should run like the demo project **MovingSquare.exe** already in your Day01 folder.
- Make use of the location properties to move the square
 - Square.left (increment using +=5)
 - Square.top (decrement using -=5)
- Use IF decision control structures to make the square not go too far east and then not go too far north! Play with the numbers until it looks just right...