Array of Buttons

Declare array of buttons

```
Public Class Form1
    Dim square(5) As Button
    Dim i As Integer
    Private Sub Form1_Load(ByVal sender As System.Object,

        For i = 0 To 4
            square(i) = New Button
            Me.Controls.Add(square(i))
        Next i
    End Sub
End Class
```
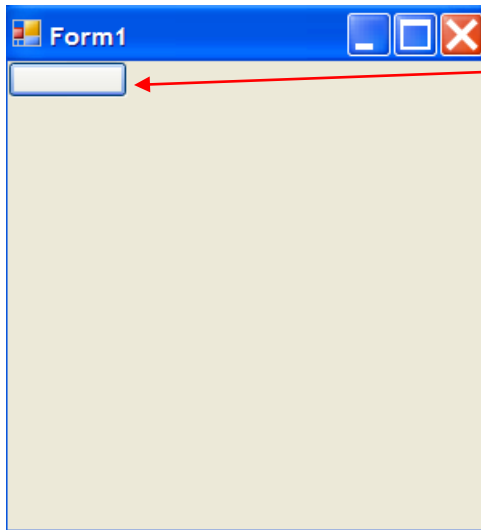
Initialize buttons using the New operator within a loop.

Add controls, in this case buttons, to the form. Me is a keyword which refers to the form.

Where Are The 5 Buttons?

Form1

**The five buttons are actually here.
They are just on top of one another.**

**Declare 'y' as an integer to hold y coordinate
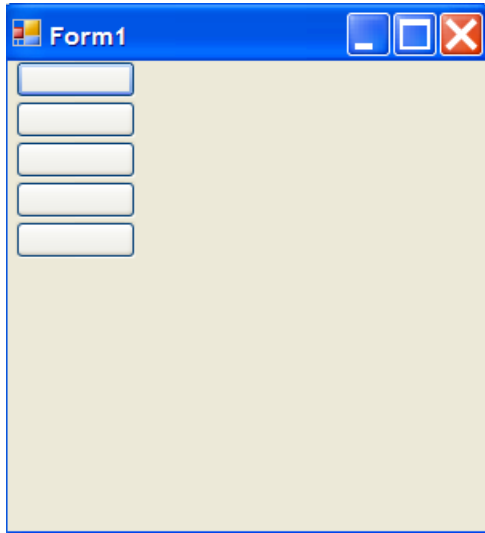location of various buttons.**

```vb
Public Class Form1
    Dim square(5) As Button
    Dim i As Integer
    Dim y As Integer
    Private Sub Form1_Load(ByVal sender As System
        For i = 0 To 4
            square(i) = New Button
            square(i).Location = New Point(5, y)
            Me.Controls.Add(square(i))
            y = y + 25
        Next i
    End Sub
End Class
```

**Set 'x' location as fixed at 5 but
y location as a variable that will
change.**

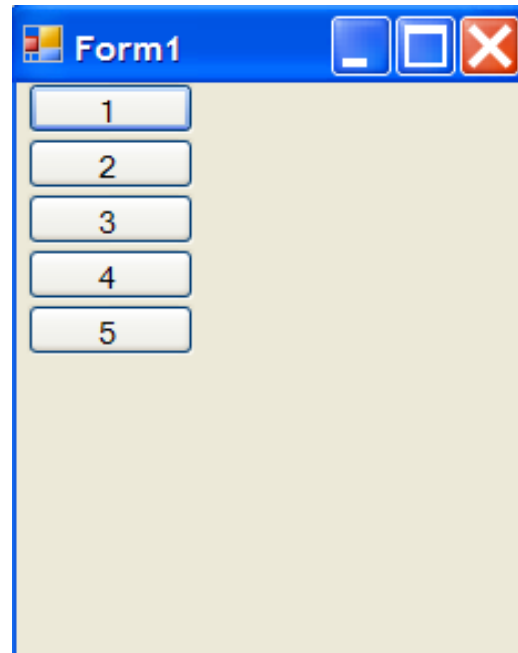**Increase 'y' value by 25 each
time through the loop.**

That's Better….

Add Text To Each Button

```
For i = 0 To 4
    square(i) = New Button
    square(i).Text = CStr(i + 1)
    square(i).Location = New Point(5, y)
    Me.Controls.Add(square(i))
    y = y + 25
Next i
```

CStr() **function converts integer variable to a String.
(I + 1) labels the buttons 1-5 instead of 0-4.**

Form1

1
2
3
4
5

More Buttons? No Problem

Increase size of array

Increase # of loops

```
Public Class Form1
    Dim square(20) As Button
    Dim i As Integer
    Dim y As Integer
    Private Sub Form1_Load(ByVal sender As System.Object, ByVal
        For i = 0 To 19
            square(i) = New Button
            square(i).Text = CStr(i + 1)
            square(i).Location = New Point(5, y)
            square(i).Size = New System.Drawing.Size(40, 30)
            Me.Controls.Add(square(i))
            y = y + 30
        Next i
    End Sub
End Class
```

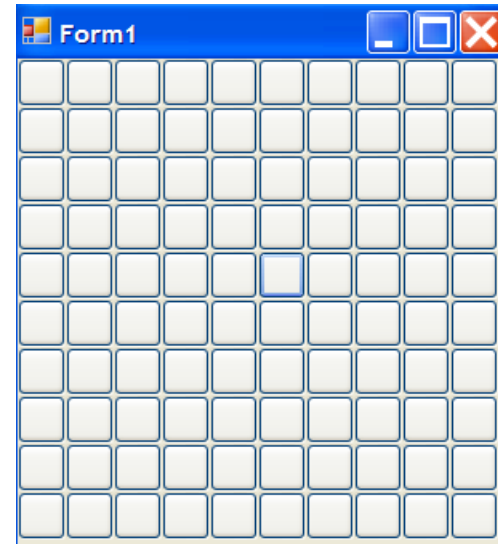**Make buttons smaller**

Form1

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

2D Array of Buttons

```vb
Public Class Form1
    Dim square(10, 10) As Button
    Dim row As Integer
    Dim column As Integer
    Dim x As Integer
    Dim y As Integer

    Private Sub Form1_Load(ByVal sender As System.Object, ByVal e As System

        For row = 0 To 9
            For column = 0 To 9
                square(row, column) = New Button
                square(row, column).Size = New System.Drawing.Size(30, 30)
                square(row, column).Location = New Point(x, y)
                Me.Controls.Add(square(row, column))
                x = x + 30
            Next column
            y = y + 30
            x = 0
        Next row
    End Sub
End Class
```

I feel a game coming on….

Crazy Advanced Stuff

```vbnet
Public Class Form1
    Dim square(10, 10) As Button
    Dim row As Integer
    Dim column As Integer
    Dim x As Integer
    Dim y As Integer

    Private Sub Form1_Load(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles MyBase.Load

        For row = 0 To 9
            For column = 0 To 9
                square(row, column) = New Button

                square(row, column).Tag = CStr(row & " " & column)
                AddHandler square(row, column).Click, AddressOf ButtonHandler

                square(row, column).Size = New System.Drawing.Size(30, 30)
                square(row, column).Location = New Point(x, y)
                Me.Controls.Add(square(row, column))
                x = x + 30
            Next column
            y = y + 30
            x = 0
        Next row
    End Sub
    Public Sub ButtonHandler(ByVal sender As System.Object, ByVal e As System.EventArgs)
        MsgBox("Button number " & CType(sender, Button).Tag & " was clicked")
    End Sub

End Class
```
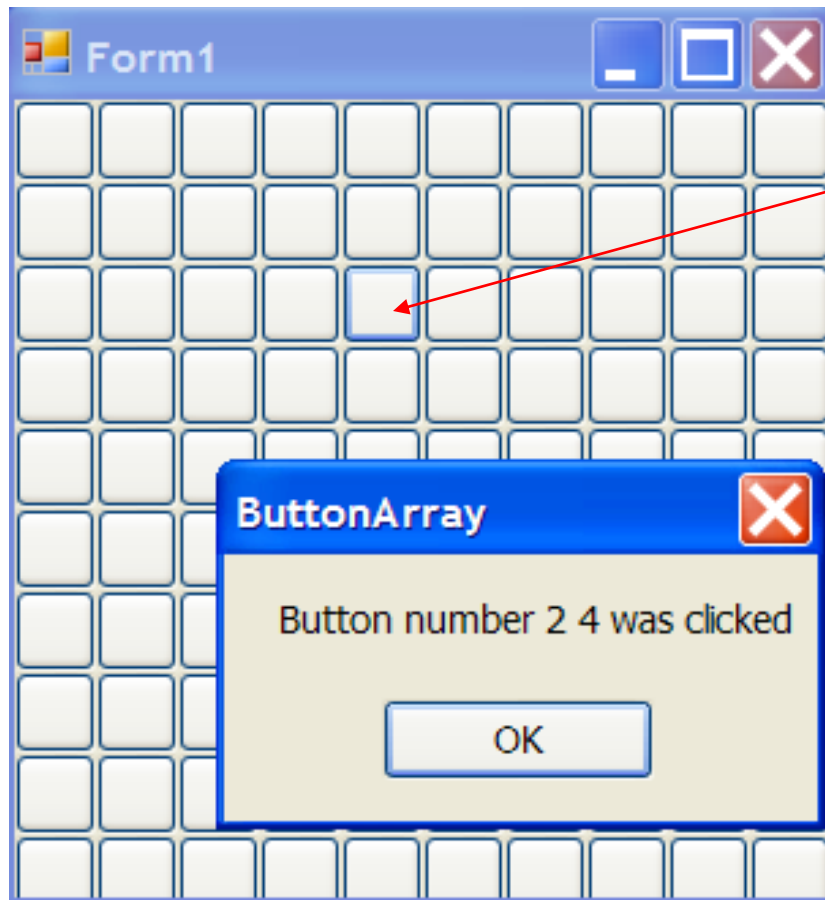
Displays….

When you click on a button…