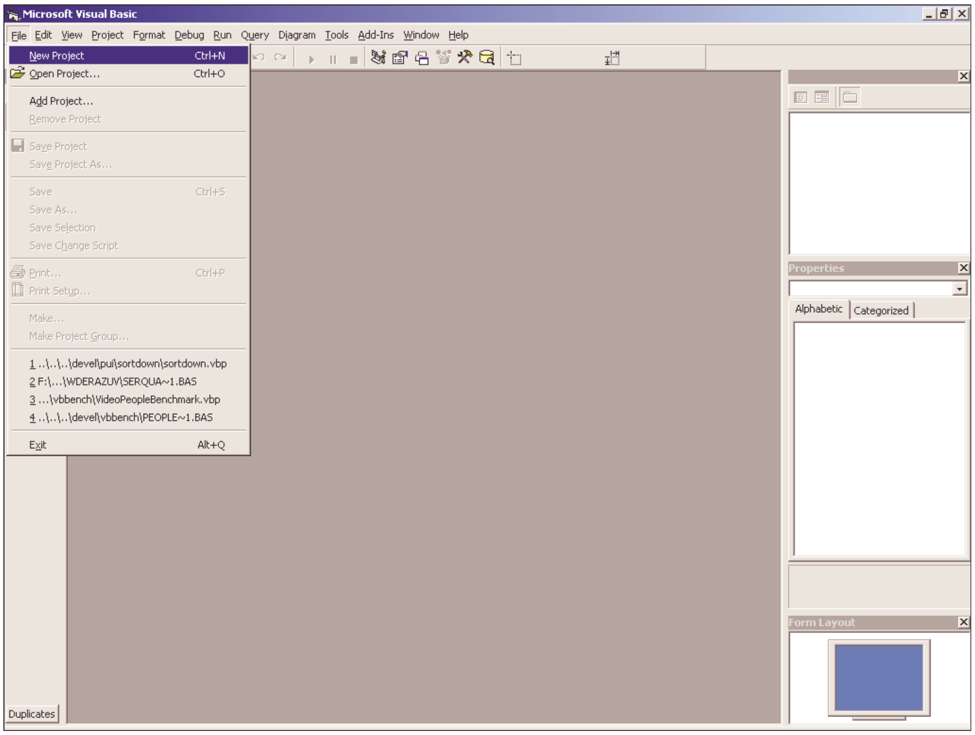
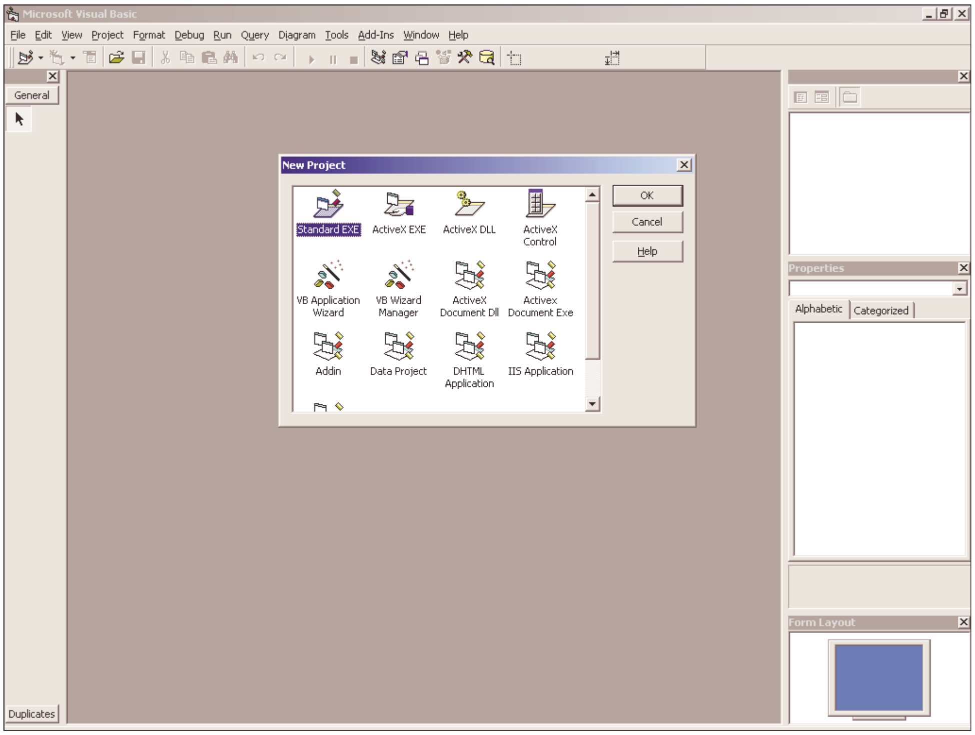
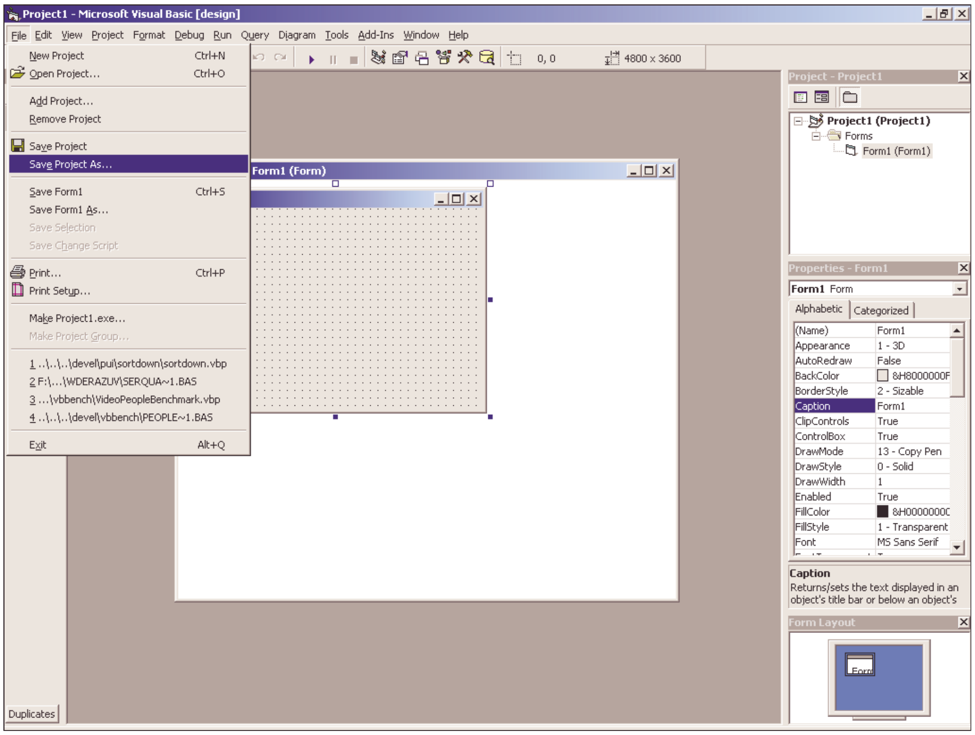


Create a new project. File -> New Project



Choose a standard executable.



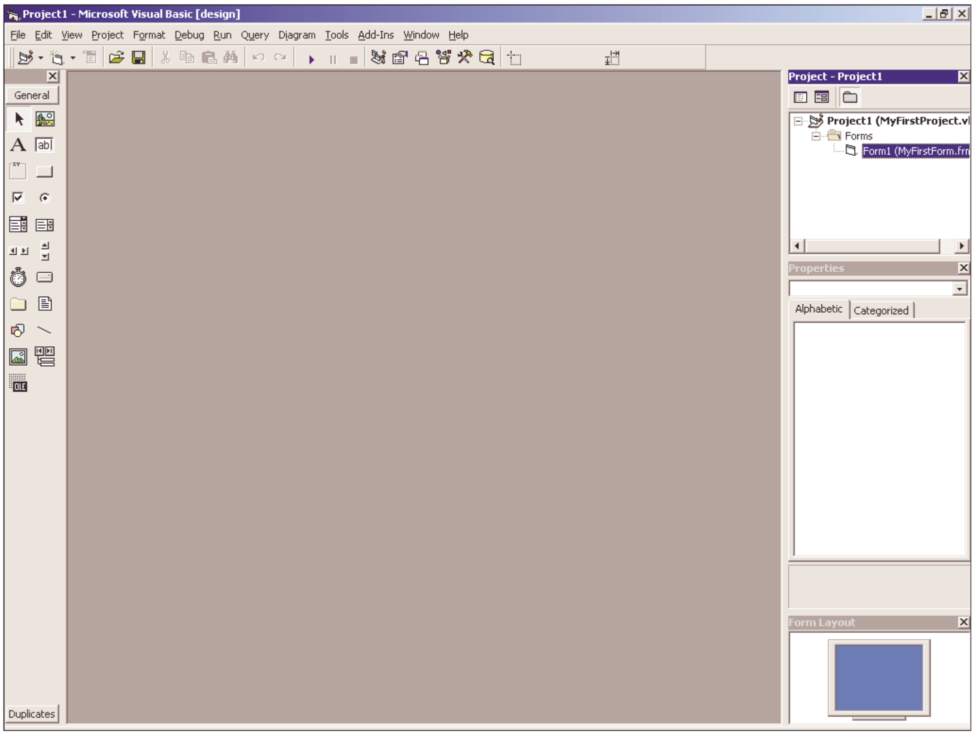
(Name)	Form1
Appearance	1 - 3D
AutoRedraw	False
BackColor	□ &H8000000F
BorderStyle	2 - Sizable
Caption	Form1
ClipControls	True
ControlBox	True
DrawMode	13 - Copy Pen
DrawStyle	0 - Solid
DrawWidth	1
Enabled	True
FillColor	■ &H0000000C
FillStyle	1 - Transparent
Font	MS Sans Serif

Caption
Returns/sets the text displayed in an object's title bar or below an object's

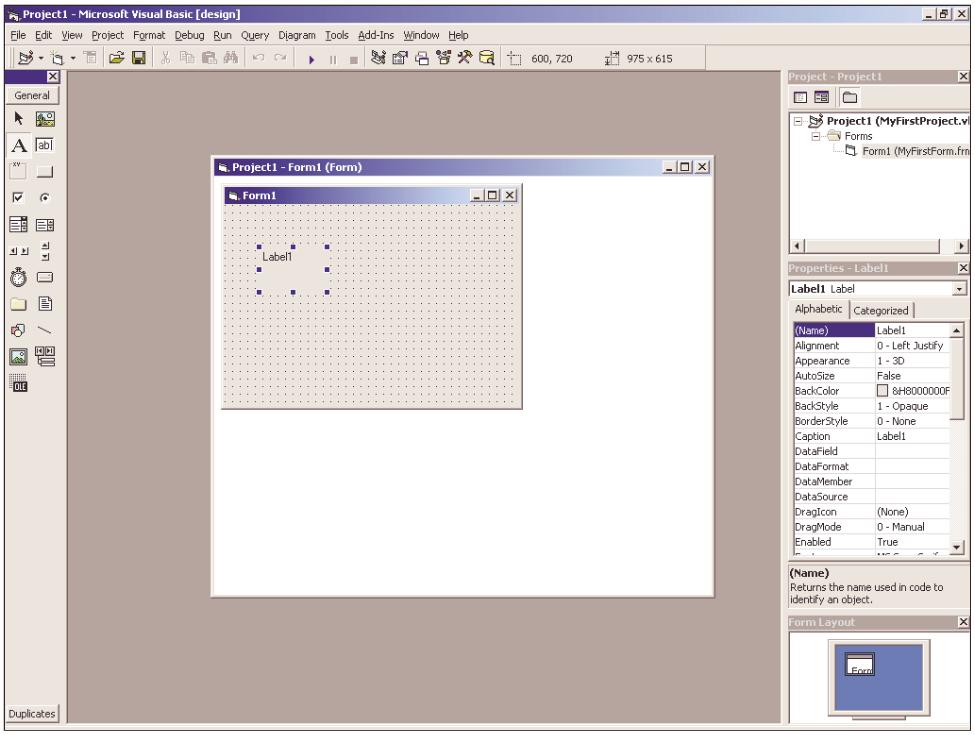
You'll now have a blank form. You should probably save it right away, giving it a name.

Create a directory for your project. Select File->Save Project As. Save your files in your directory.

It will ask you to name your form (MyFirstForm.frm) and your project (MyFirstProject.vbp).


Project1 - Microsoft Visual Basic [design]
File Edit View Project Format Debug Run Query Diagram Tools Add-Ins Window Help
General
Duplicates
Project - Project1
Project1 (MyFirstProject.vb
Forms
Form1 (MyFirstForm.frm
Properties
Alphabetic
Categorized
Form Layout

If you close your form, you can reopen it from the Project Explorer in the upper right corner of your workspace.



Project1 - Microsoft Visual Basic [design]
File Edit View Project Format Debug Run Query Diagram Tools Add-Ins Window Help
600, 720
975 x 615
General
Duplicates
Project1 - Form1 (Form)
Form1
Label1
Project - Project1
Project1 (MyFirstProject.vb
Forms
Form1 (MyFirstForm.frm
Form Layout
Form

Properties - Label1

Label1 Label

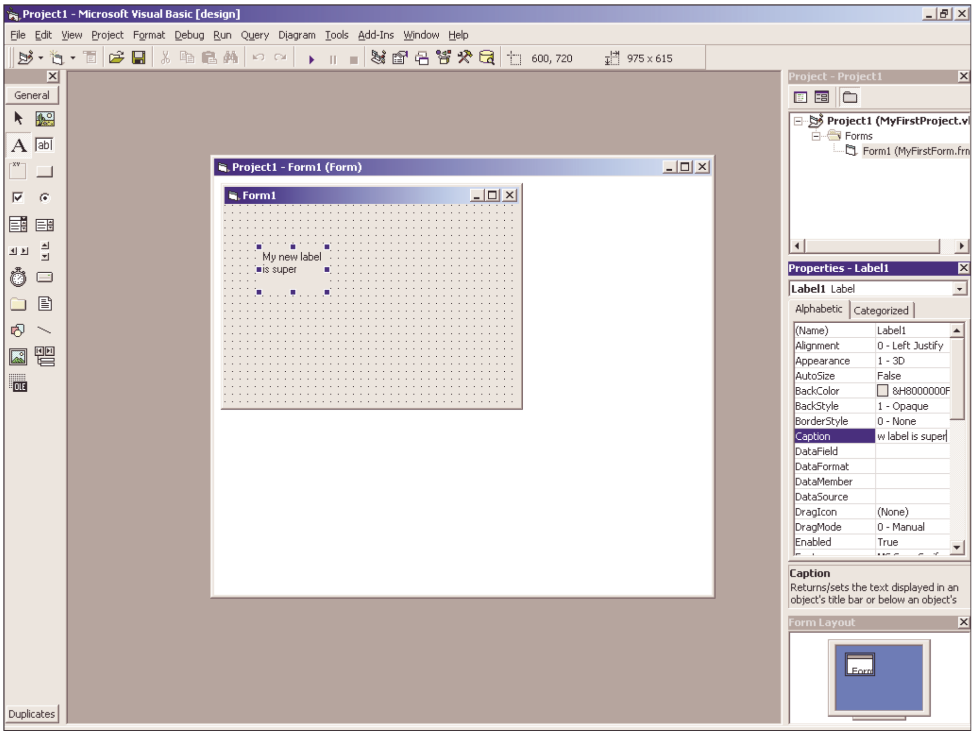
Alphabetic | Categorized

(Name)	Label1
Alignment	0 - Left Justify
Appearance	1 - 3D
AutoSize	False
BackColor	&H8000000F
BackStyle	1 - Opaque
BorderStyle	0 - None
Caption	Label1
DataField	
DataFormat	
DataMember	
DataSource	
DragIcon	(None)
DragMode	0 - Manual
Enabled	True

(Name)
Returns the name used in code to identify an object.

Select the text tool from the toolbox and place a label on your form.

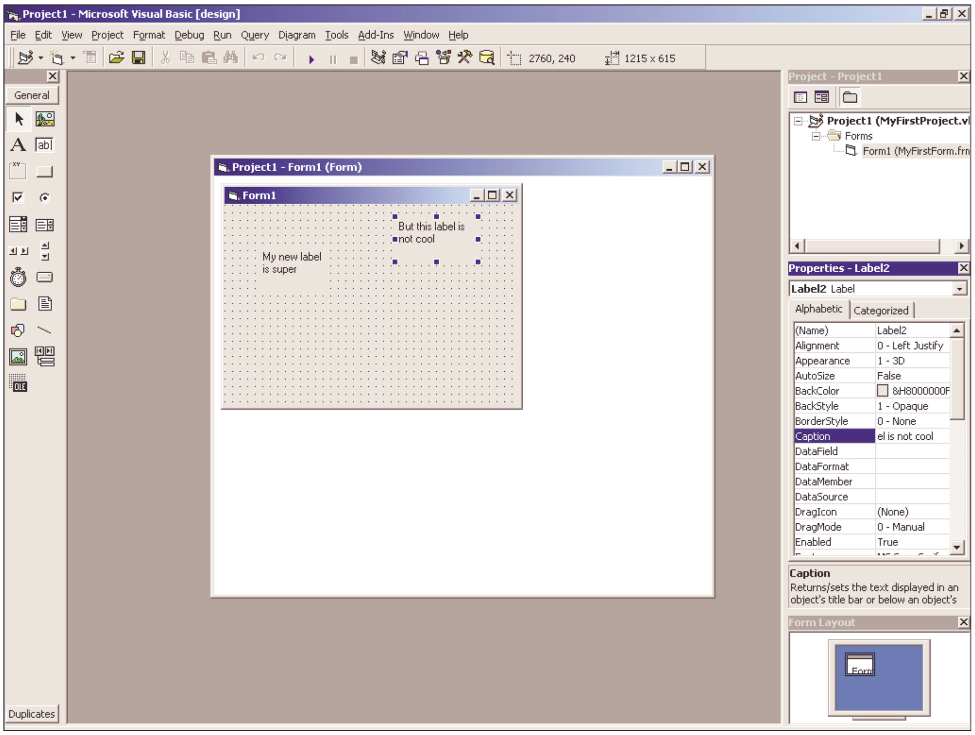
If your toolbox is not visible, select View->Toolbox.



(Name)	Label1
Alignment	0 - Left Justify
Appearance	1 - 3D
AutoSize	False
BackColor	□ &H8000000F
BackStyle	1 - Opaque
BorderStyle	0 - None
Caption	w label is super
DataField	
DataFormat	
DataMember	
DataSource	
DragIcon	(None)
DragMode	0 - Manual
Enabled	True

Caption
Returns/sets the text displayed in an object's title bar or below an object's

Change the text in your label by editing its “Caption” property.



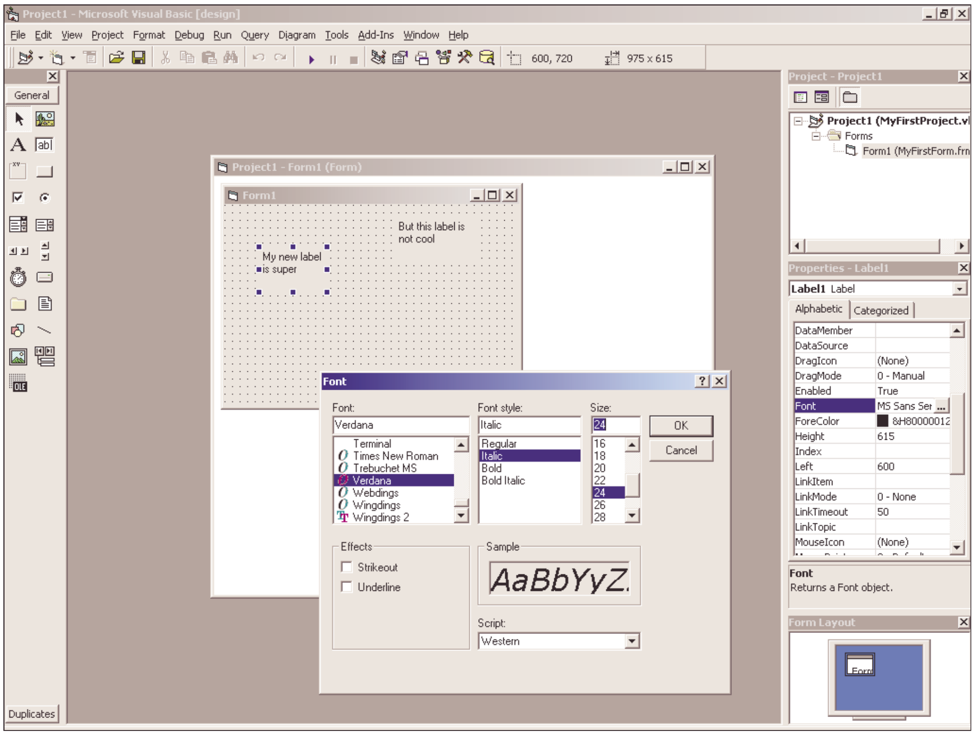
But this label is not cool

My new label is super

(Name)	Label2
Alignment	0 - Left Justify
Appearance	1 - 3D
AutoSize	False
BackColor	&H8000000F
BackStyle	1 - Opaque
BorderStyle	0 - None
Caption	el is not cool
DataField	
DataFormat	
DataMember	
DataSource	
DragIcon	(None)
DragMode	0 - Manual
Enabled	True

Caption
Returns/sets the text displayed in an object's title bar or below an object's

Create another label, changing its text too.



Font: Verdana

Font style: Italic

Size: 24

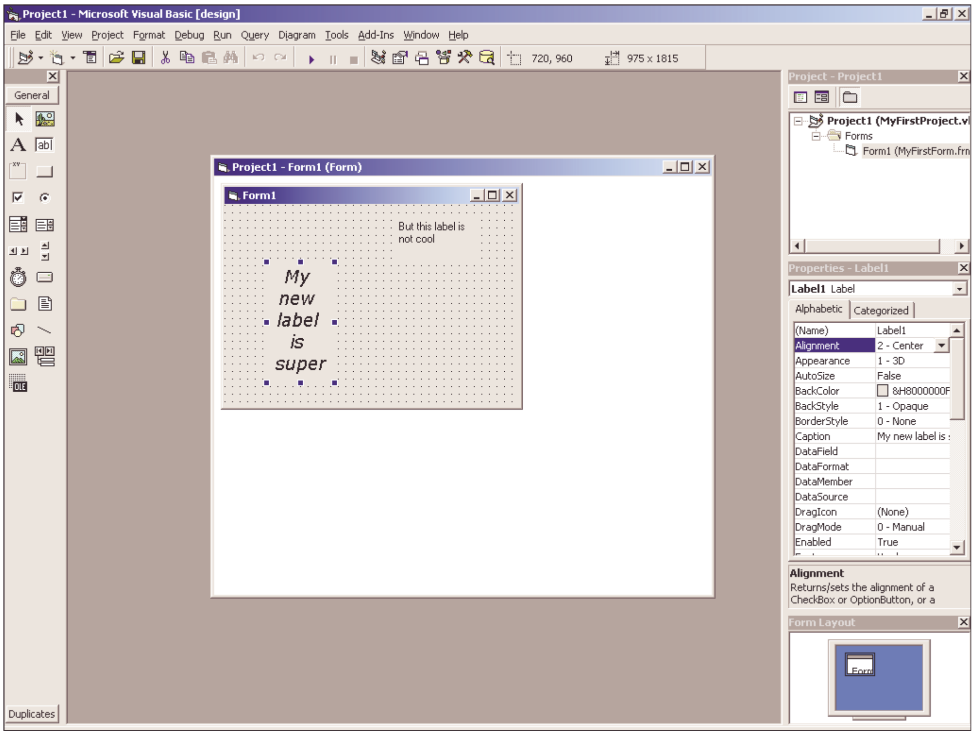
□ Strikeout

□ Underline

Script: Western

DataMember	
DataSource	
DragIcon	(None)
DragMode	0 - Manual
Enabled	True
Font	MS Sans Ser ...
ForeColor	&H80000012
Height	615
Index	
Left	600
LinkItem	
LinkMode	0 - None
LinkTimeout	50
LinkTopic	
MouseIcon	(None)

We can change the Font of our first label by changing its Font property.



Project1 - Microsoft Visual Basic [design]
File Edit View Project Format Debug Run Query Diagram Tools Add-Ins Window Help
720, 960
975 x 1815
General
Duplicates
Project1 - Form1 (Form)
Form1
Project - Project1
Project1 (MyFirstProject.vb
Forms
Form1 (MyFirstForm.frm
Form Layout
Form

But this label is not cool

My new label is super

Properties - Label1

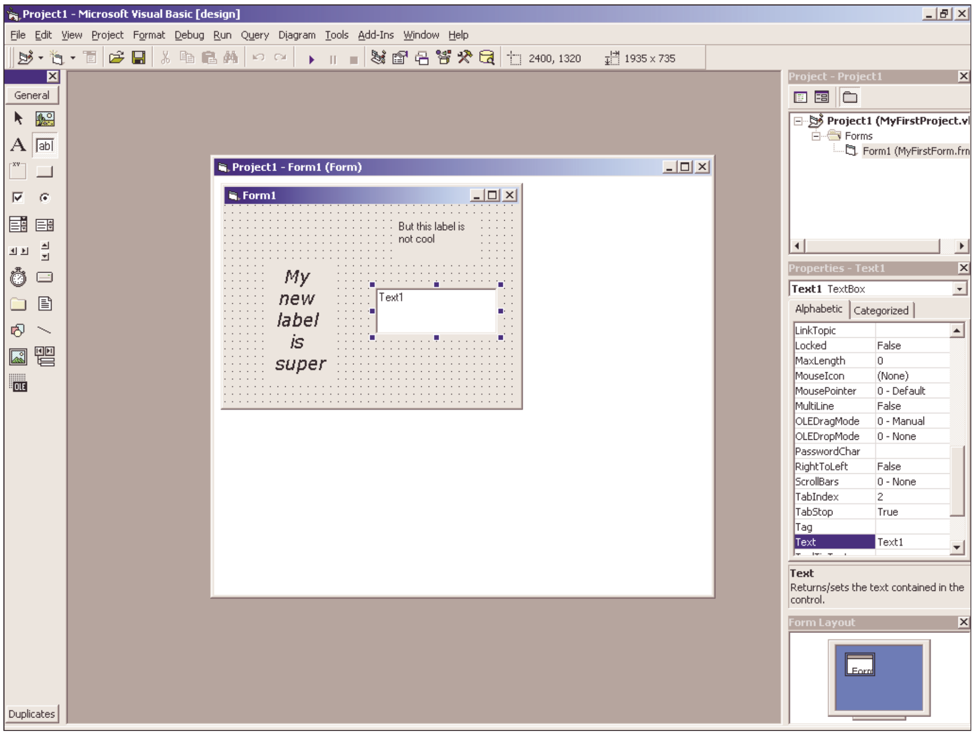
Label1 Label

Alphabetic | Categorized

(Name)	Label1
Alignment	2 - Center
Appearance	1 - 3D
AutoSize	False
BackColor	&H8000000F
BackStyle	1 - Opaque
BorderStyle	0 - None
Caption	My new label is :
DataField	
DataFormat	
DataMember	
DataSource	
DragIcon	(None)
DragMode	0 - Manual
Enabled	True

Alignment
Returns/sets the alignment of a CheckBox or OptionButton, or a

Add a little alignment change to help make it super!

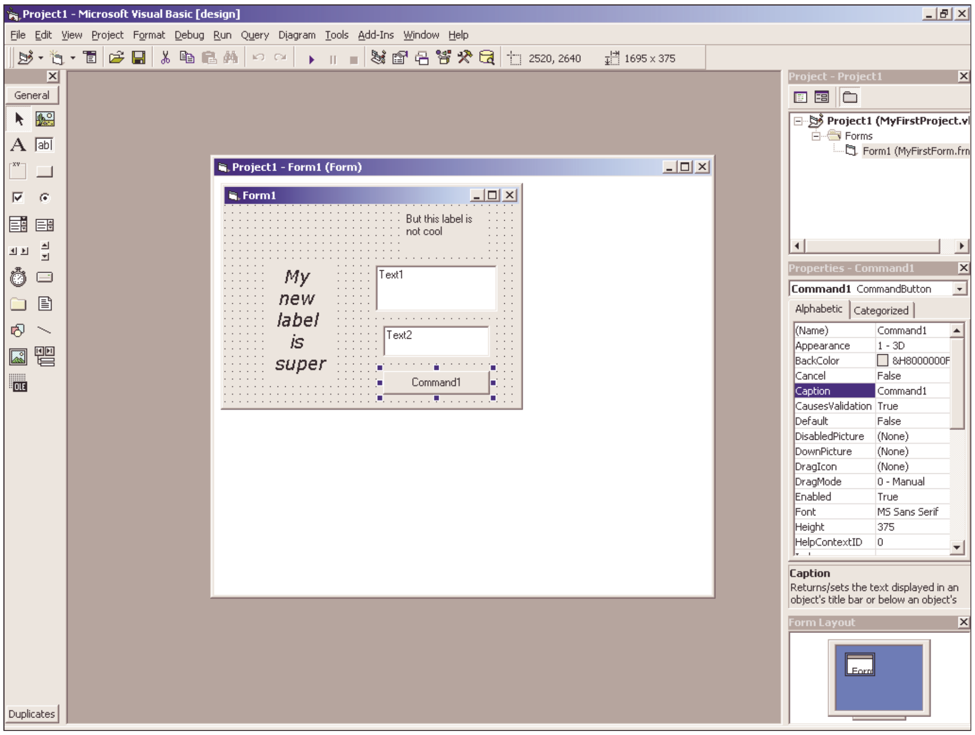


LinkTopic	
Locked	False
MaxLength	0
MouseIcon	(None)
MousePointer	0 - Default
MultiLine	False
OLEDragMode	0 - Manual
OLEDropMode	0 - None
PasswordChar	
RightToLeft	False
ScrollBars	0 - None
TabIndex	2
TabStop	True
Tag	
Text	Text1

Text
Returns/sets the text contained in the control.

Creating a textbox is just like creating a label.

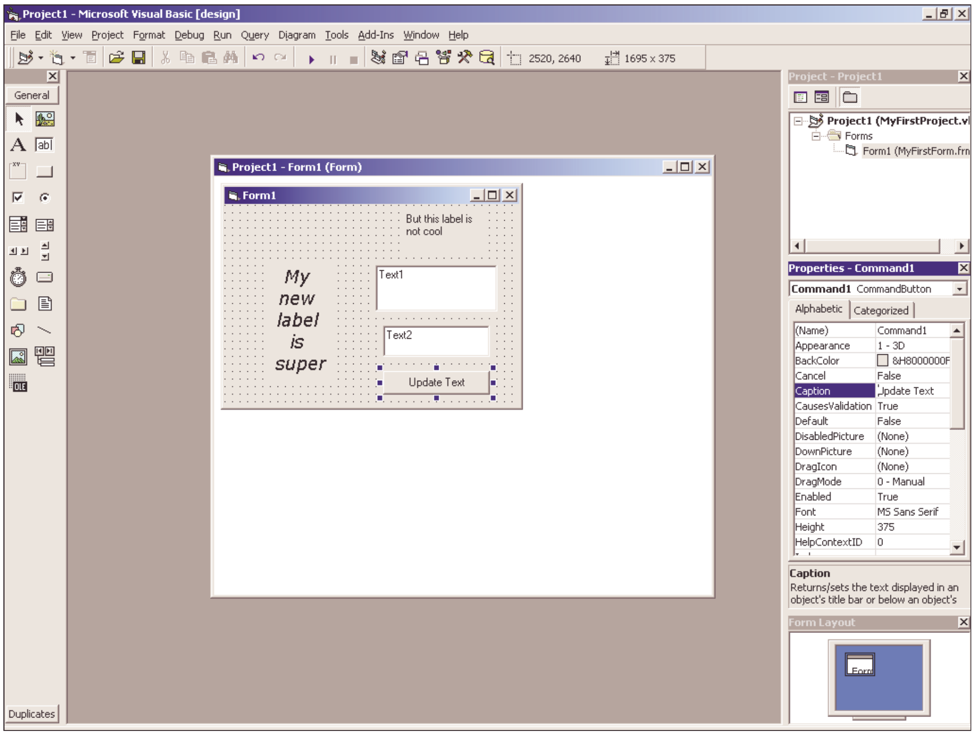
By default a text field is only a single line. You can change this with the Multiline property.



(Name)	Command1
Appearance	1 - 3D
BackColor	□ &H8000000F
Cancel	False
Caption	Command1
CausesValidation	True
Default	False
DisabledPicture	(None)
DownPicture	(None)
DragIcon	(None)
DragMode	0 - Manual
Enabled	True
Font	MS Sans Serif
Height	375
HelpContextID	0

Caption
Returns/sets the text displayed in an object's title bar or below an object's

Add another text box and a button.


Project1 - Microsoft Visual Basic [design]
File Edit View Project Format Debug Run Query Diagram Tools Add-Ins Window Help
2520, 2640
1695 x 375
General
Duplicates
Project1 - Form1 (Form)
Form1
But this label is not cool
My new label is super
Text1
Text2
Update Text
Project - Project1
Project1 (MyFirstProject.vi
Forms
Form1 (MyFirstForm.frn
Form Layout
Form

Properties - Command1

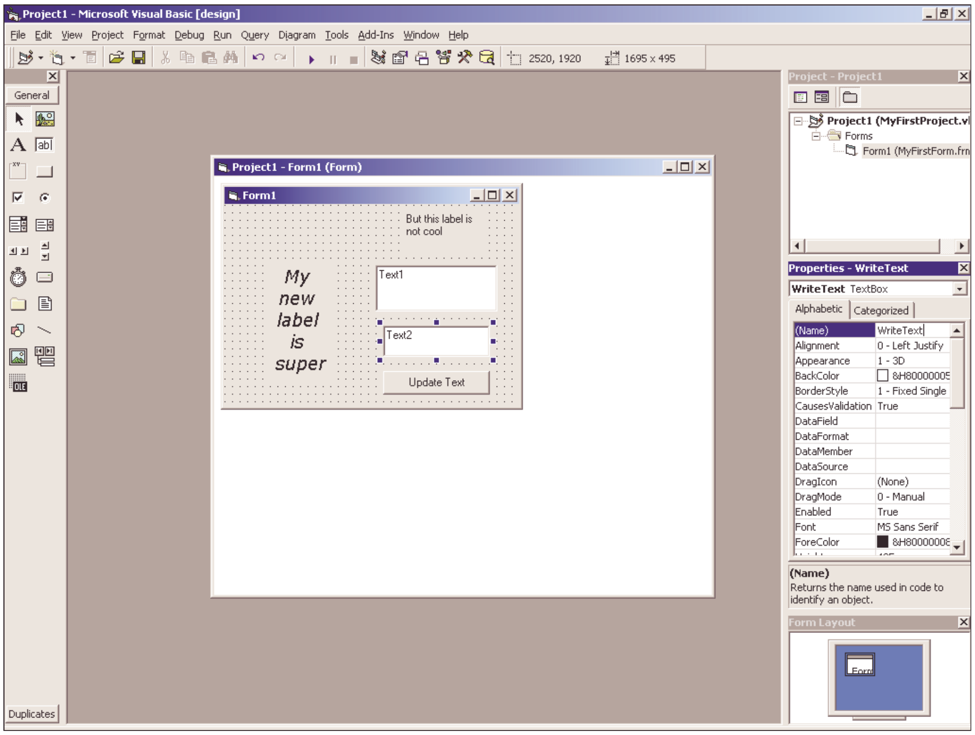
Command1 CommandButton

Alphabetic | Categorized

(Name)	Command1
Appearance	1 - 3D
BackColor	&H8000000F
Cancel	False
Caption	Update Text
CausesValidation	True
Default	False
DisabledPicture	(None)
DownPicture	(None)
DragIcon	(None)
DragMode	0 - Manual
Enabled	True
Font	MS Sans Serif
Height	375
HelpContextID	0

Caption
Returns/sets the text displayed in an object's title bar or below an object's

Change the caption on your button.


Project1 - Microsoft Visual Basic [design]
File Edit View Project Format Debug Run Query Diagram Tools Add-Ins Window Help
2520, 1920
1695 x 495
General
Duplicates
Project1 - Form1 (Form)
Form1
But this label is not cool
My new label is super
Text1
Text2
Update Text
Project - Project1
Project1 (MyFirstProject.v
Forms
Form1 (MyFirstForm.frm
Form Layout
Form

Properties - WriteText

WriteText TextBox

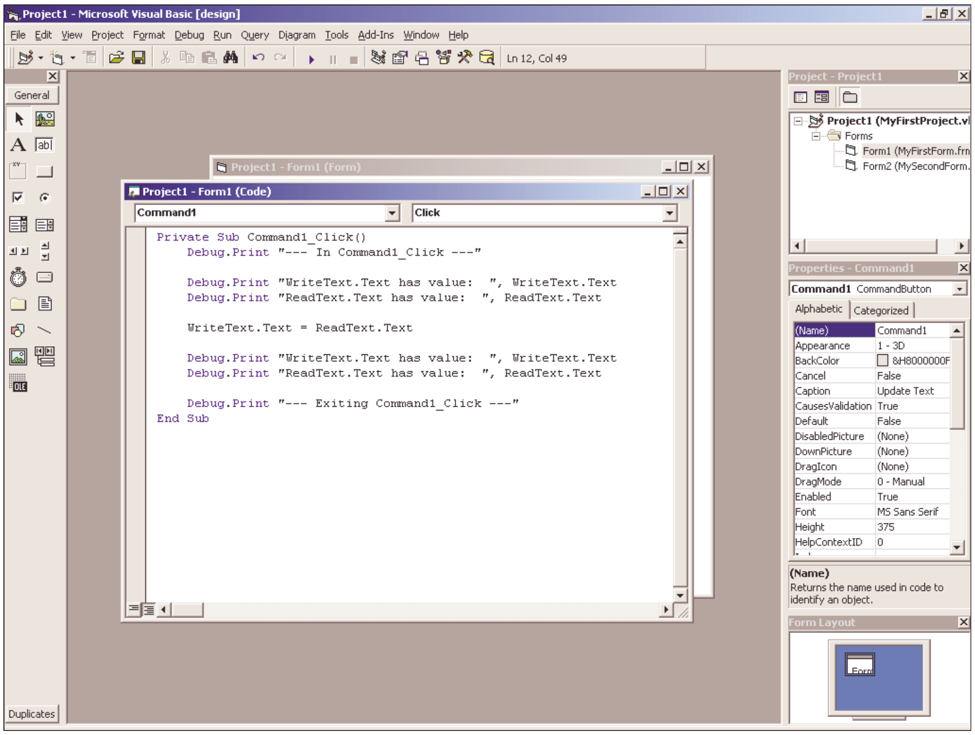
Alphabetic | Categorized

(Name)	WriteText
Alignment	0 - Left Justify
Appearance	1 - 3D
BackColor	□ &H80000005
BorderStyle	1 - Fixed Single
CausesValidation	True
DataField	
DataFormat	
DataMember	
DataSource	
DragIcon	(None)
DragMode	0 - Manual
Enabled	True
Font	MS Sans Serif
ForeColor	■ &H80000008

(Name)
Returns the name used in code to identify an object.

We are going to refer to our text fields programmatically, so we should give them meaningful names. Lets call them “ReadText” and “WriteText”.

Note this is not the text in the text field that we’re changing (that is the Text property). This is the name we use to refer to that text field. Lets set the Text Property to a blank string while we’re here.



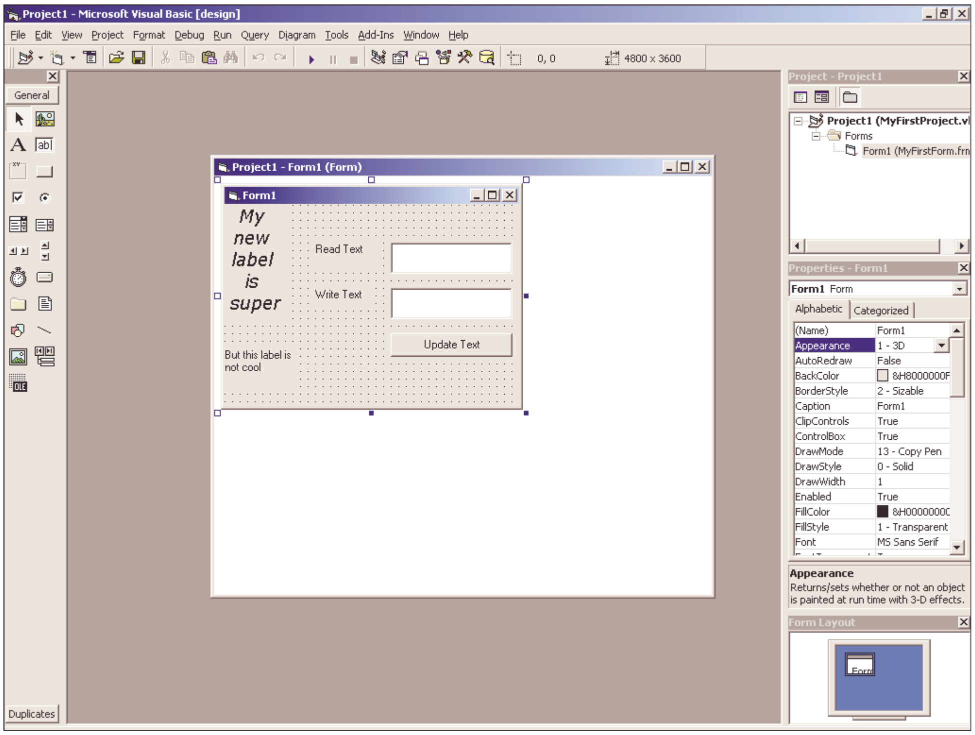
```
Private Sub Command1_Click()
    Debug.Print "--- In Command1_Click ---"

    Debug.Print "WriteText.Text has value:  ", WriteText.Text
    Debug.Print "ReadText.Text has value:  ", ReadText.Text

    WriteText.Text = ReadText.Text

    Debug.Print "WriteText.Text has value:  ", WriteText.Text
    Debug.Print "ReadText.Text has value:  ", ReadText.Text

    Debug.Print "--- Exiting Command1_Click ---"
End Sub
```

(Name)	Command1
Appearance	1 - 3D
BackColor	□ &H8000000F
Cancel	False
Caption	Update Text
CausesValidation	True
Default	False
DisabledPicture	(None)
DownPicture	(None)
DragIcon	(None)
DragMode	0 - Manual
Enabled	True
Font	MS Sans Serif
Height	375
HelpContextID	0

(Name)
Returns the name used in code to identify an object.

Double click on the command button to bring up its event handler. Add a simple script that sets the value of the WriteText box to the text currently in the ReadText box.

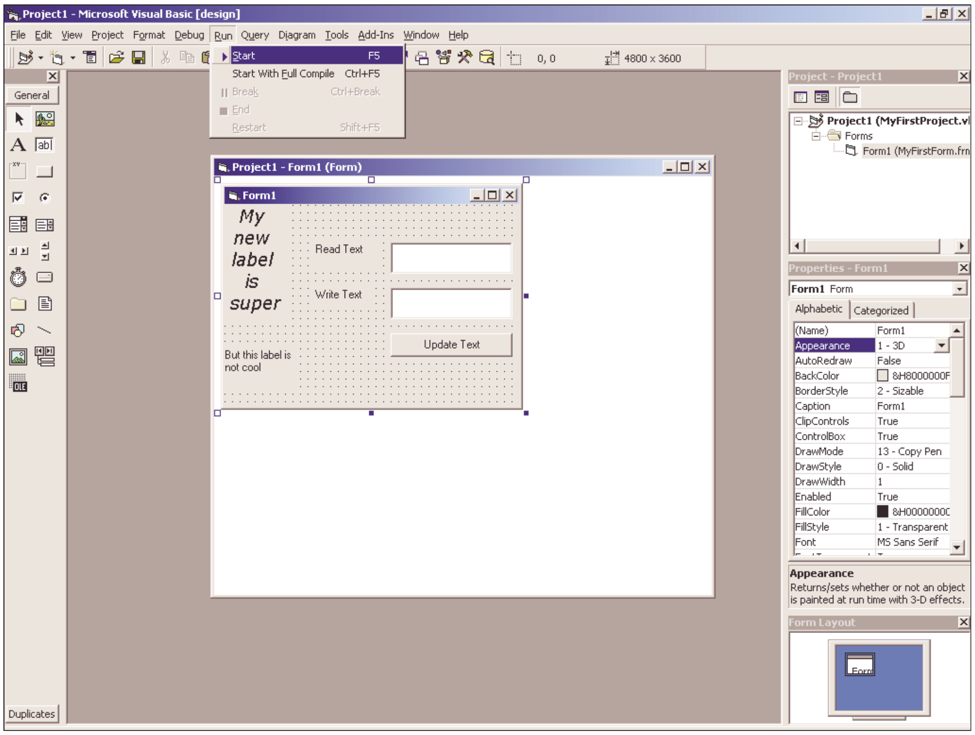
Note the Debug.Print statement. This can be very helpful in keeping track of what your program is doing, so that you can understand why it isn't working.



(Name)	Form1
Appearance	1 - 3D
AutoRedraw	False
BackColor	□ &H8000000F
BorderStyle	2 - Sizable
Caption	Form1
ClipControls	True
ControlBox	True
DrawMode	13 - Copy Pen
DrawStyle	0 - Solid
DrawWidth	1
Enabled	True
FillColor	■ &H0000000C
FillStyle	1 - Transparent
Font	MS Sans Serif

Appearance
Returns/sets whether or not an object is painted at run time with 3-D effects.

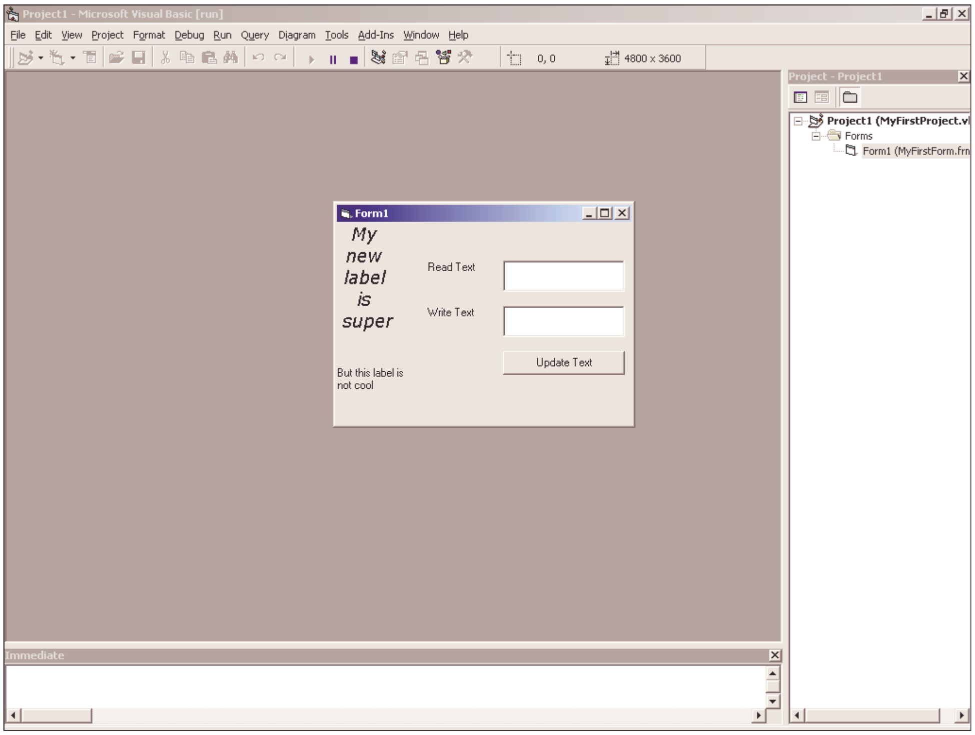
Lets clean up our layout a little bit and put simple labels on our text boxes.



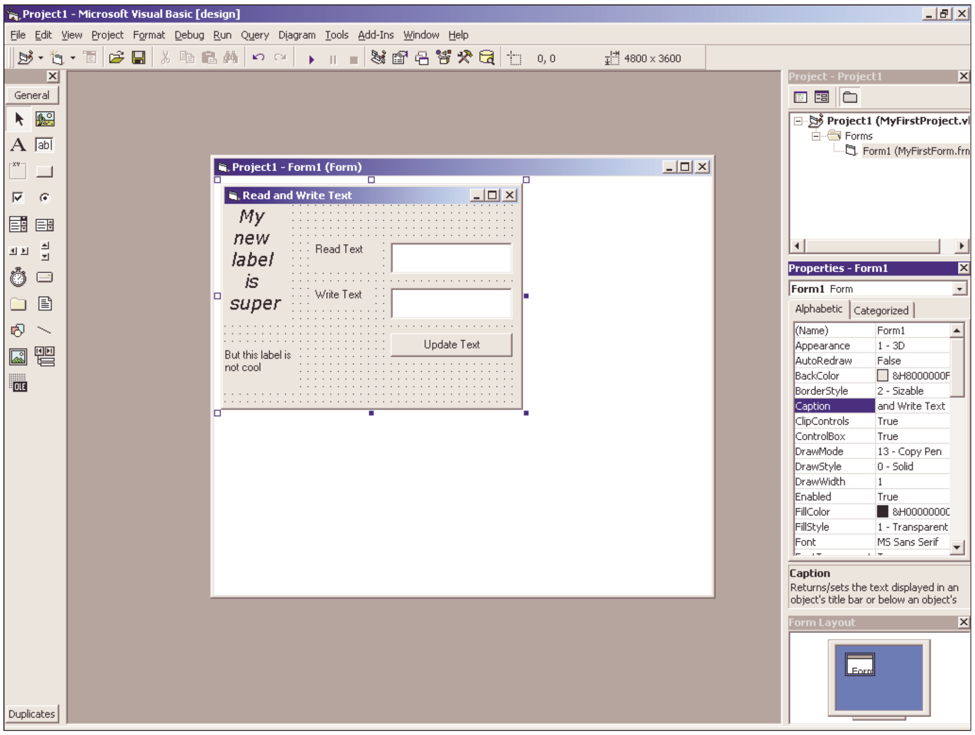
(Name)	Form1
Appearance	1 - 3D
AutoRedraw	False
BackColor	&H8000000F
BorderStyle	2 - Sizable
Caption	Form1
ClipControls	True
ControlBox	True
DrawMode	13 - Copy Pen
DrawStyle	0 - Solid
DrawWidth	1
Enabled	True
FillColor	&H0000000C
FillStyle	1 - Transparent
Font	MS Sans Serif

Appearance
Returns/sets whether or not an object is painted at run time with 3-D effects.

We can run our program with the Run->Start command.


Project1 - Microsoft Visual Basic [run]
File Edit View Project Format Debug Run Query Diagram Tools Add-Ins Window Help
0, 0
4800 x 3600
Project - Project1
Project1 (MyFirstProject.vb
Forms
Form1 (MyFirstForm.frm
Form1
My new label is super
Read Text
Write Text
Update Text
But this label is not cool
Immediate

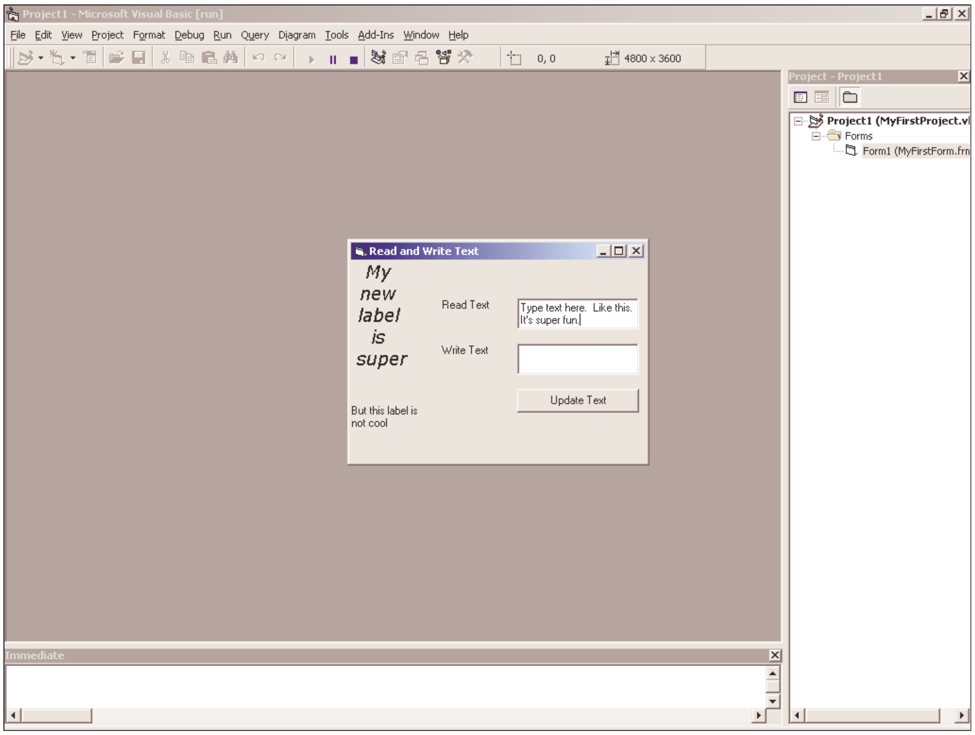
We should fix that lousy window name “Form1”.



(Name)	Form1
Appearance	1 - 3D
AutoRedraw	False
BackColor	□ &H8000000F
BorderStyle	2 - Sizable
Caption	and Write Text
ClipControls	True
ControlBox	True
DrawMode	13 - Copy Pen
DrawStyle	0 - Solid
DrawWidth	1
Enabled	True
FillColor	■ &H0000000C
FillStyle	1 - Transparent
Font	MS Sans Serif

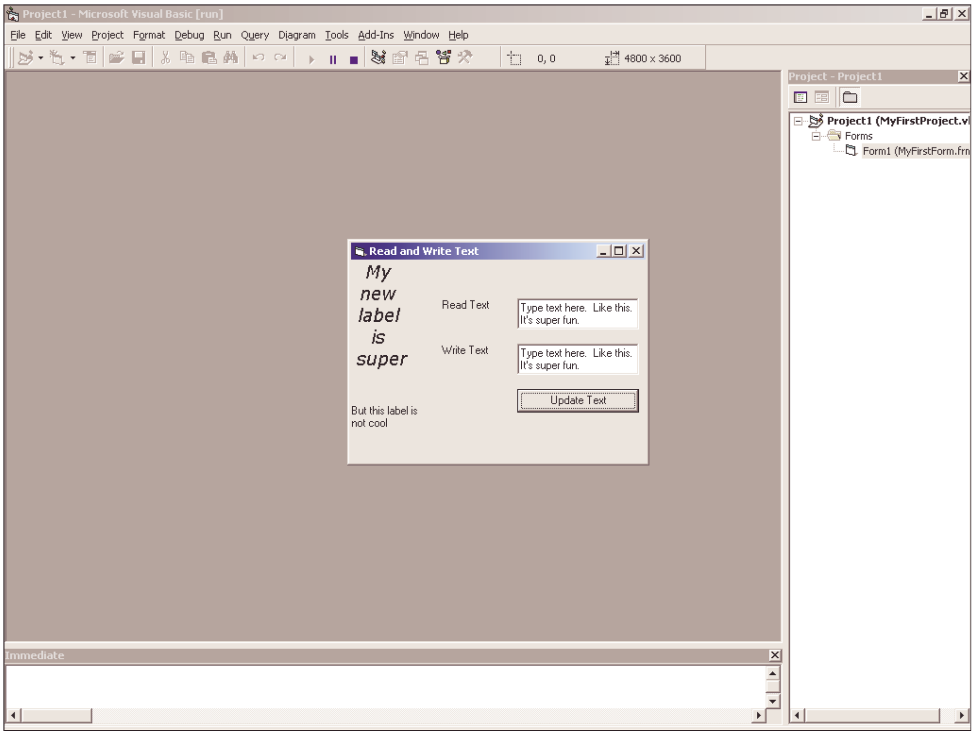
Caption
Returns/sets the text displayed in an object's title bar or below an object's

It’s the Caption property on the form.


Project1 - Microsoft Visual Basic [run]
File Edit View Project Format Debug Run Query Diagram Tools Add-Ins Window Help
0, 0
4800 x 3600
Project - Project1
Project1 (MyFirstProject.v
Forms
Form1 (MyFirstForm.frm
Read and Write Text
My new label is super
Read Text
Write Text
Update Text
But this label is not cool
Immediate

Type text here. Like this. It's super fun.

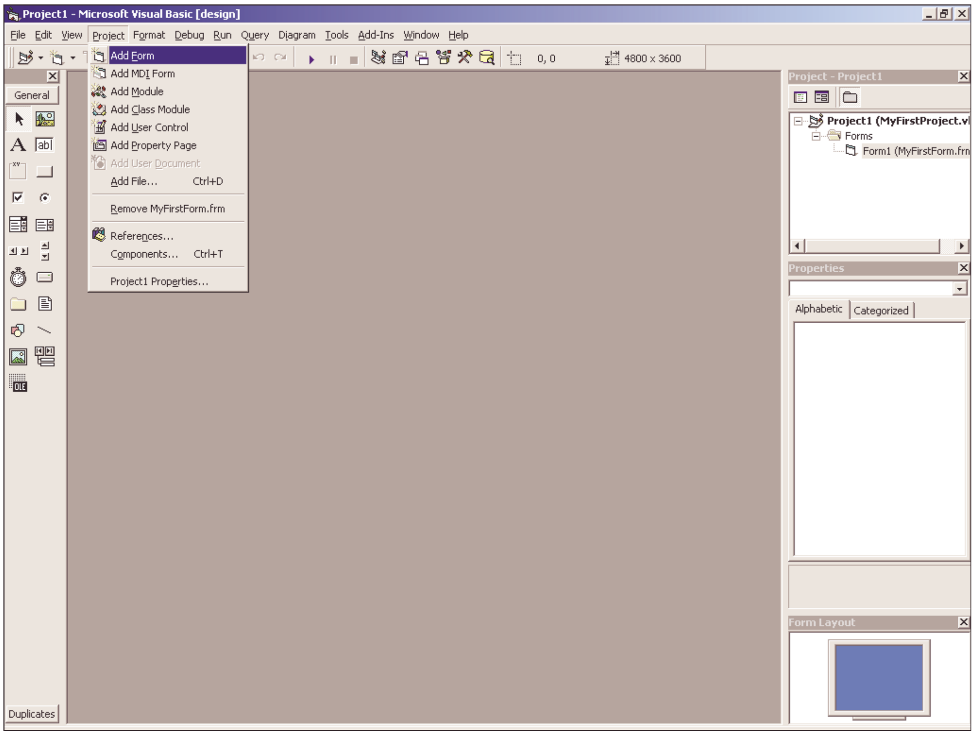
Now we can type text in the top box.


Project1 - Microsoft Visual Basic [run]
File Edit View Project Format Debug Run Query Diagram Tools Add-Ins Window Help
0, 0
4800 x 3600
Project - Project1
Project1 (MyFirstProject.vb
Forms
Form1 (MyFirstForm.frm
Read and Write Text
My new label is super
Read Text
Write Text
Update Text
But this label is not cool
Immediate

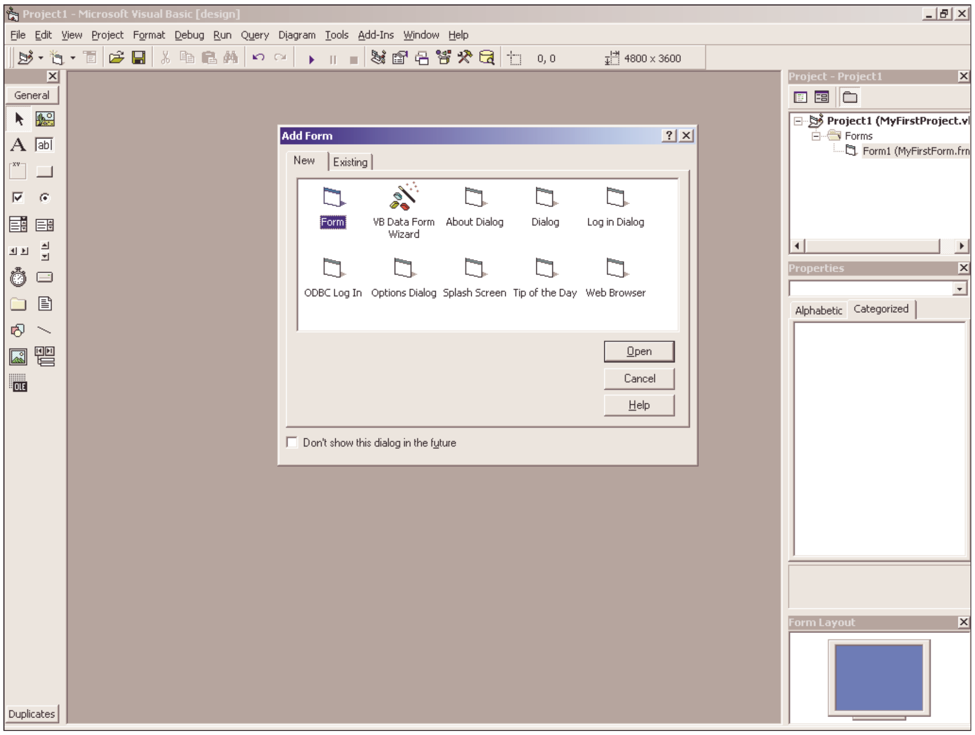
Read Text: Type text here. Like this. It's super fun.

Write Text: Type text here. Like this. It's super fun.

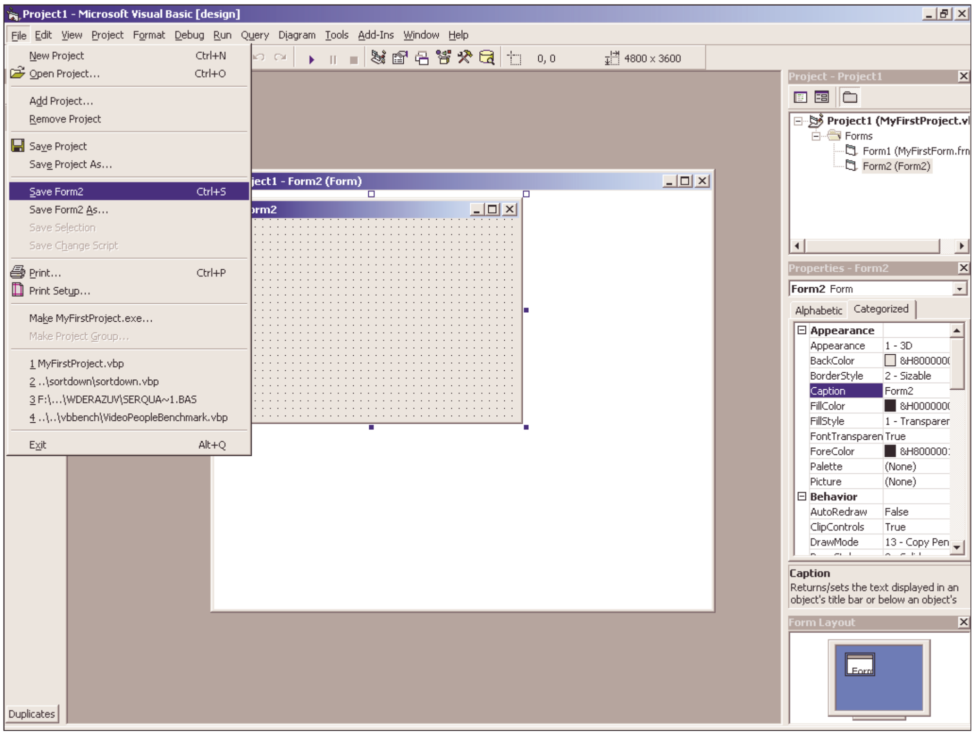
Click the button and the text is copied into the other box.



Now we will add a second form to our project.



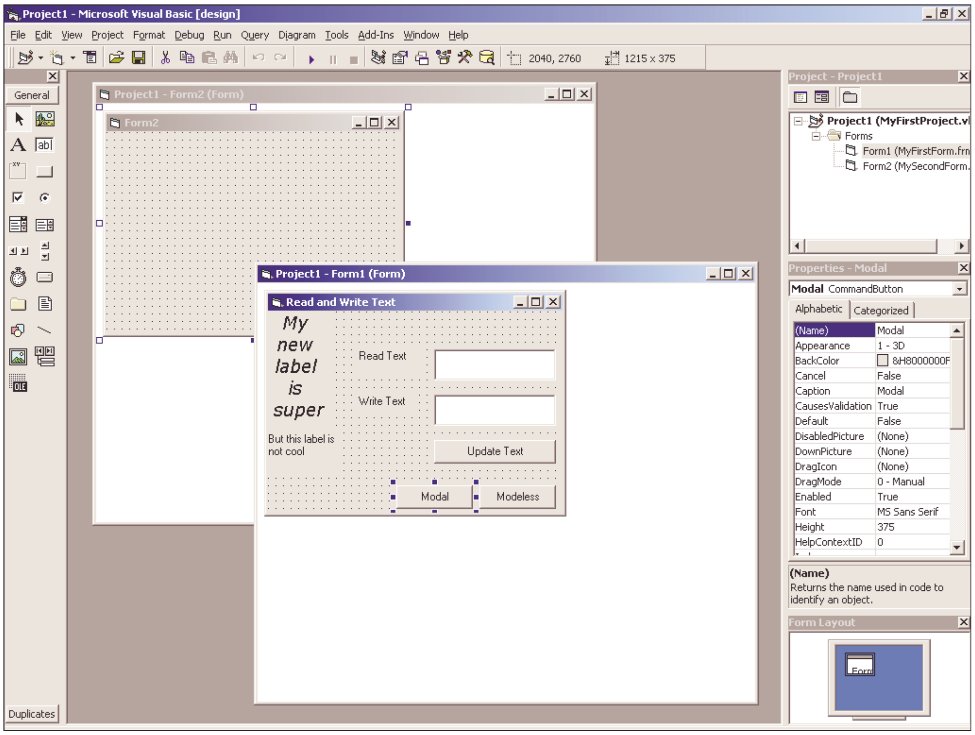
Use the standard "Form" type.



Appearance	
Appearance	1 - 3D
BackColor	&H800000(
BorderStyle	2 - Sizable
Caption	Form2
FillColor	■ &H000000(
FillStyle	1 - Transparer
FontTransparen	True
ForeColor	■ &H800000:
Palette	(None)
Picture	(None)
Behavior	
AutoRedraw	False
ClipControls	True
DrawMode	13 - Copy Pen

Caption
Returns/sets the text displayed in an object's title bar or below an object's

Save the form, giving its file a meaningful name (MySecondForm.frm).

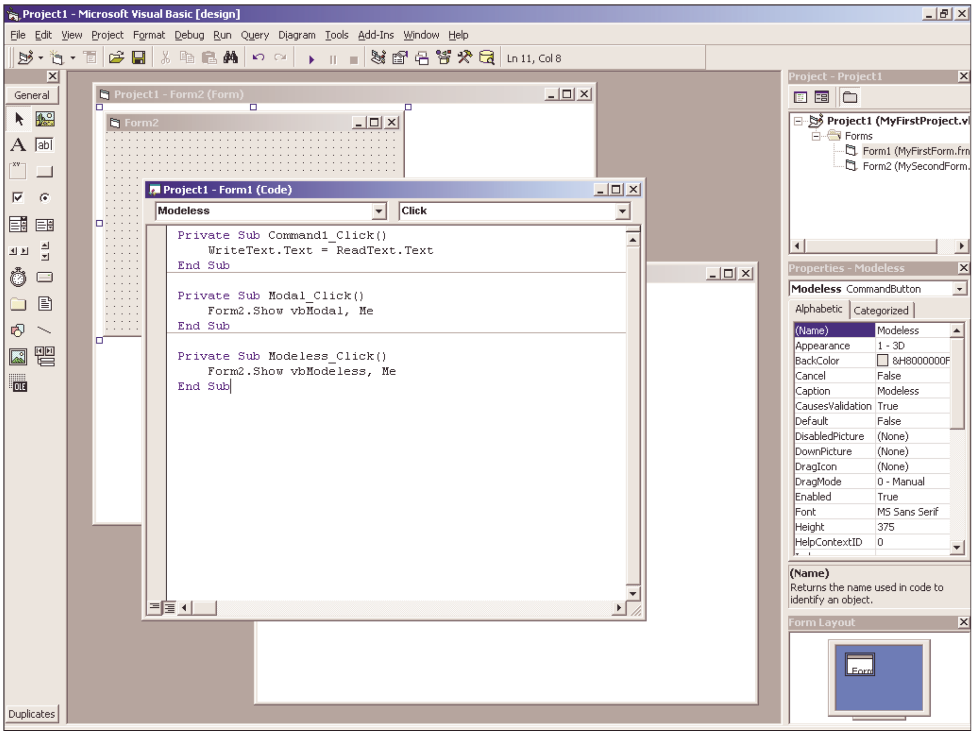


Modal CommandButton

(Name)	Modal
Appearance	1 - 3D
BackColor	&H8000000F
Cancel	False
Caption	Modal
CausesValidation	True
Default	False
DisabledPicture	(None)
DownPicture	(None)
DragIcon	(None)
DragMode	0 - Manual
Enabled	True
Font	MS Sans Serif
Height	375
HelpContextID	0

(Name)
Returns the name used in code to identify an object.

We’re going to open this second form from our first form. We’ll have two buttons for opening it. We’ll call these buttons “Modal” and “Modeless”, setting the (Name) property and the Caption property of each button.



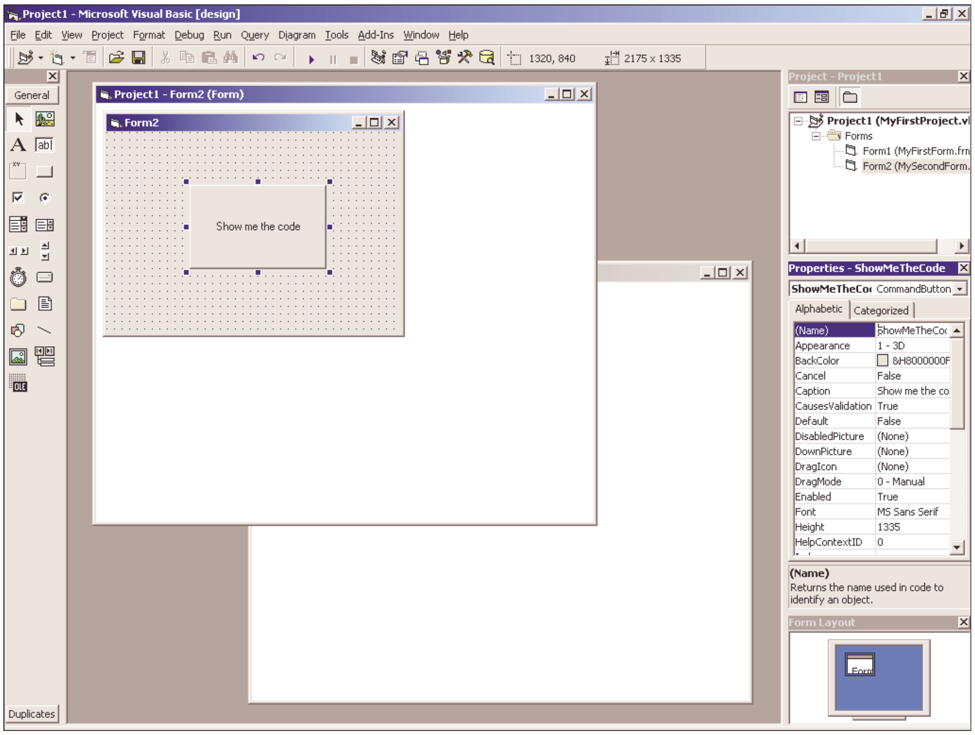
```
Private Sub Command1_Click()
    WriteText.Text = ReadText.Text
End Sub

Private Sub Modal_Click()
    Form2.Show vbModal, Me
End Sub

Private Sub Modeless_Click()
    Form2.Show vbModeless, Me
End Sub
```

(Name)	Modeless
Appearance	1 - 3D
BackColor	&H8000000F
Cancel	False
Caption	Modeless
CausesValidation	True
Default	False
DisabledPicture	(None)
DownPicture	(None)
DragIcon	(None)
DragMode	0 - Manual
Enabled	True
Font	MS Sans Serif
Height	375
HelpContextID	0

(Name)
Returns the name used in code to identify an object.

Double clicking on Modal and Modeless will give us event handlers. We'll have Modal call the Show method of Form two with the vbModal parameter. Modeless will call with the vbModeless parameter.

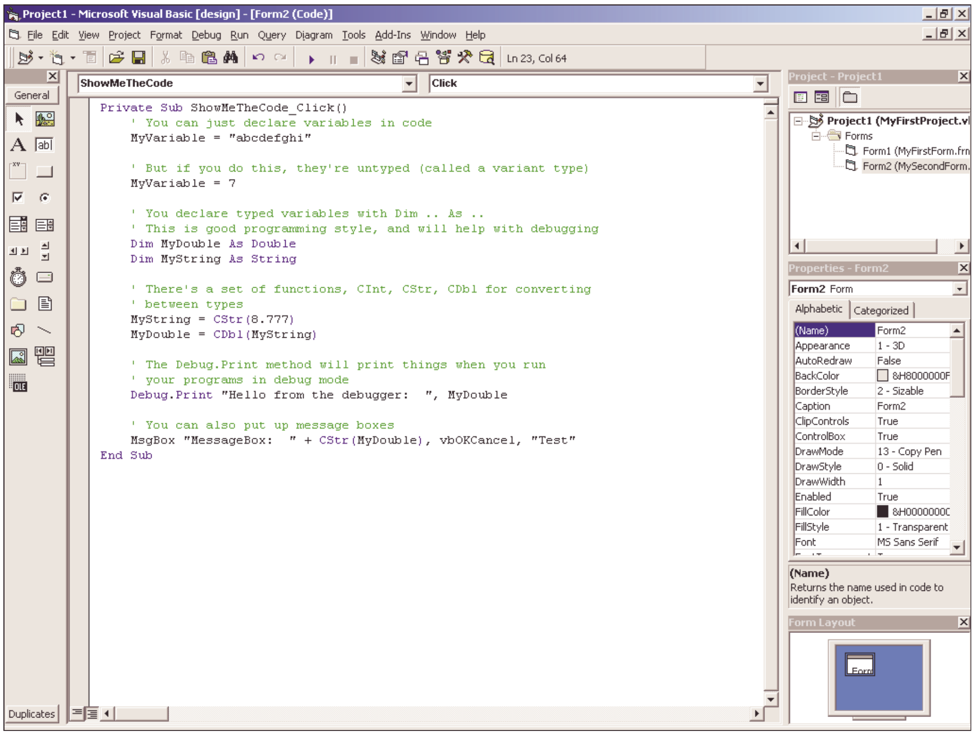
Note that Me indicates that Form1 is the parent form for Form2. Its kind of like the this keyword in other languages.


Project1 - Microsoft Visual Basic [design]
File Edit View Project Format Debug Run Query Diagram Tools Add-Ins Window Help
1320, 840
2175 x 1335
General
Duplicates
Project1 - Form2 (Form)
Form2
Show me the code
Project - Project1
Project1 (MyFirstProject.v
Forms
Form1 (MyFirstForm.frm
Form2 (MySecondForm.
Properties - ShowMeTheCode
ShowMeTheCo CommandButton
Alphabetic
Categorized
Form Layout
Form

(Name)	ShowMeTheCo
Appearance	1 - 3D
BackColor	□ &H8000000F
Cancel	False
Caption	Show me the co
CausesValidation	True
Default	False
DisabledPicture	(None)
DownPicture	(None)
DragIcon	(None)
DragMode	0 - Manual
Enabled	True
Font	MS Sans Serif
Height	1335
HelpContextID	0

(Name)
Returns the name used in code to identify an object.

We’ll put a button on Form2. We’ll just be using this button to illustrate some things about how to code in Visual Basic.



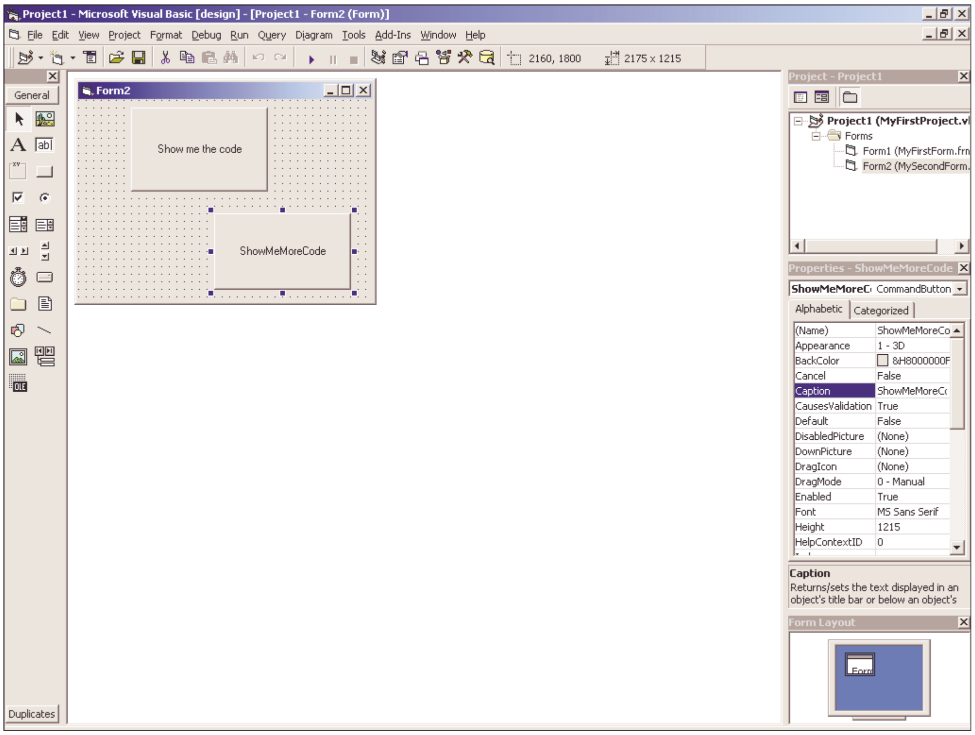
```
Private Sub ShowMeTheCode_Click()
    ' You can just declare variables in code
    MyVariable = "abcdefghi"

    ' But if you do this, they're untyped (called a variant type)
    MyVariable = 7

    ' You declare typed variables with Dim .. As ..
    ' This is good programming style, and will help with debugging
    Dim MyDouble As Double
    Dim MyString As String

    ' There's a set of functions, CInt, CStr, CDbl for converting
    ' between types
    MyString = CStr(8.777)
    MyDouble = CDbl(MyString)

    ' The Debug.Print method will print things when you run
    ' your programs in debug mode
    Debug.Print "Hello from the debugger:  ", MyDouble

    ' You can also put up message boxes
    MsgBox "MessageBox:  " + CStr(MyDouble), vbOKCancel, "Test"
End Sub
```

(Name)	Form2
Appearance	1 - 3D
AutoRedraw	False
BackColor	&H8000000F
BorderStyle	2 - Sizable
Caption	Form2
ClipControls	True
ControlBox	True
DrawMode	13 - Copy Pen
DrawStyle	0 - Solid
DrawWidth	1
Enabled	True
FillColor	&H0000000C
FillStyle	1 - Transparent
Font	MS Sans Serif

(Name)
Returns the name used in code to identify an object.

Variables in VB by default can store any value you put in them. So the same variable can store the String “cat”, the Integer 7, or the Double 4.33. But you would be responsible for keeping track of what is in a variable.

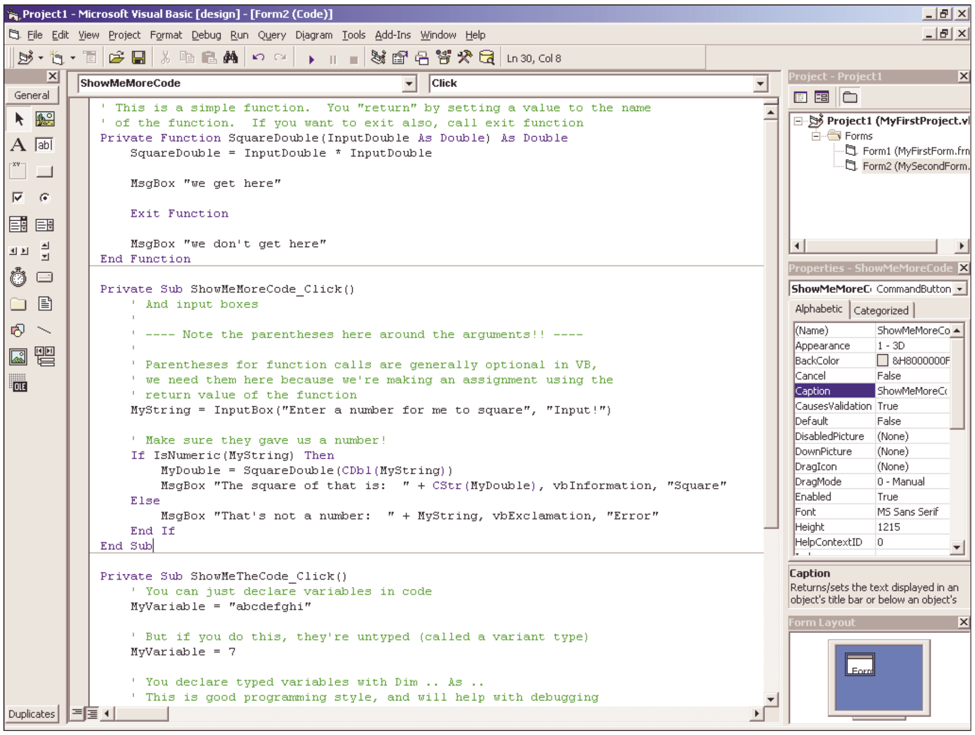
So you can instead declare your variable to be a particular type, such as String, Integer, or Double.


Project1 - Microsoft Visual Basic [design] - [Project1 - Form2 (Form)]
File Edit View Project Format Debug Run Query Diagram Tools Add-Ins Window Help
2160, 1800
2175 x 1215
General
Form2
Show me the code
ShowMeMoreCode
Duplicates
Project - Project1
Project1 (MyFirstProject.vi
Forms
Form1 (MyFirstForm.frn
Form2 (MySecondForm.
Properties - ShowMeMoreCode
ShowMeMoreC CommandButton
Alphabetic
Categorized
Form Layout
Form

(Name)	ShowMeMoreCo
Appearance	1 - 3D
BackColor	□ &H8000000F
Cancel	False
Caption	ShowMeMoreC
CausesValidation	True
Default	False
DisabledPicture	(None)
DownPicture	(None)
DragIcon	(None)
DragMode	0 - Manual
Enabled	True
Font	MS Sans Serif
Height	1215
HelpContextID	0

Caption
Returns/sets the text displayed in an object's title bar or below an object's

Another button for us to put some more code in.


Project1 - Microsoft Visual Basic [design] - [Form2 (Code)]
File Edit View Project Format Debug Run Query Diagram Tools Add-Ins Window Help
Ln 30, Col 8
General
Duplicates
ShowMeMoreCode
Click
Project - Project1
Project1 (MyFirstProject.vb
Forms
Form1 (MyFirstForm.frm
Form2 (MySecondForm.
Properties - ShowMeMoreCode
ShowMeMoreC CommandButton
Alphabetic
Categorized
Form Layout
Form

```
' This is a simple function.  You "return" by setting a value to the name
' of the function.  If you want to exit also, call exit function
Private Function SquareDouble(InputDouble As Double) As Double
    SquareDouble = InputDouble * InputDouble

    MsgBox "we get here"

    Exit Function

    MsgBox "we don't get here"
End Function

Private Sub ShowMeMoreCode_Click()
    ' And input boxes
    '
    ' ---- Note the parentheses here around the arguments!! ----
    '
    ' Parentheses for function calls are generally optional in VB,
    ' we need them here because we're making an assignment using the
    ' return value of the function
    MyString = InputBox("Enter a number for me to square", "Input!")

    ' Make sure they gave us a number!
    If IsNumeric(MyString) Then
        MyDouble = SquareDouble(CDbl(MyString))
        MsgBox "The square of that is:  " + CStr(MyDouble), vbInformation, "Square"
    Else
        MsgBox "That's not a number:  " + MyString, vbExclamation, "Error"
    End If
End Sub

Private Sub ShowMeTheCode_Click()
    ' You can just declare variables in code
    MyVariable = "abcdefghi"

    ' But if you do this, they're untyped (called a variant type)
    MyVariable = 7

    ' You declare typed variables with Dim .. As ..
    ' This is good programming style, and will help with debugging
```

(Name)	ShowMeMoreCo
Appearance	1 - 3D
BackColor	&H8000000F
Cancel	False
Caption	ShowMeMoreCo
CausesValidation	True
Default	False
DisabledPicture	(None)
DownPicture	(None)
DragIcon	(None)
DragMode	0 - Manual
Enabled	True
Font	MS Sans Serif
Height	1215
HelpContextID	0

Caption
Returns/sets the text displayed in an object's title bar or below an object's

We have defined the SquareDouble function here. Given a double as a parameter, it squares that double and returns the value. Note the weird VB syntax, we don't return a value. We instead set the name of our function to a value.

Note the IsNumeric function. It is a pretty hard problem to determine if a String contains a text representation of a number. Luckily, this, like most everything else you will want to do, has already been written for you.