

Introduction.

Our first project will be to develop a simple book order form which uses many of the common controls. We will develop this together and in stages so that we can understand the controls, their properties and events. This project adapted from Feldman,P. et al, Using Visual Basic 3, Que Corp. 1993 Chapter 8.

Exercise 1. List the controls used in the following form and how many of each is used.

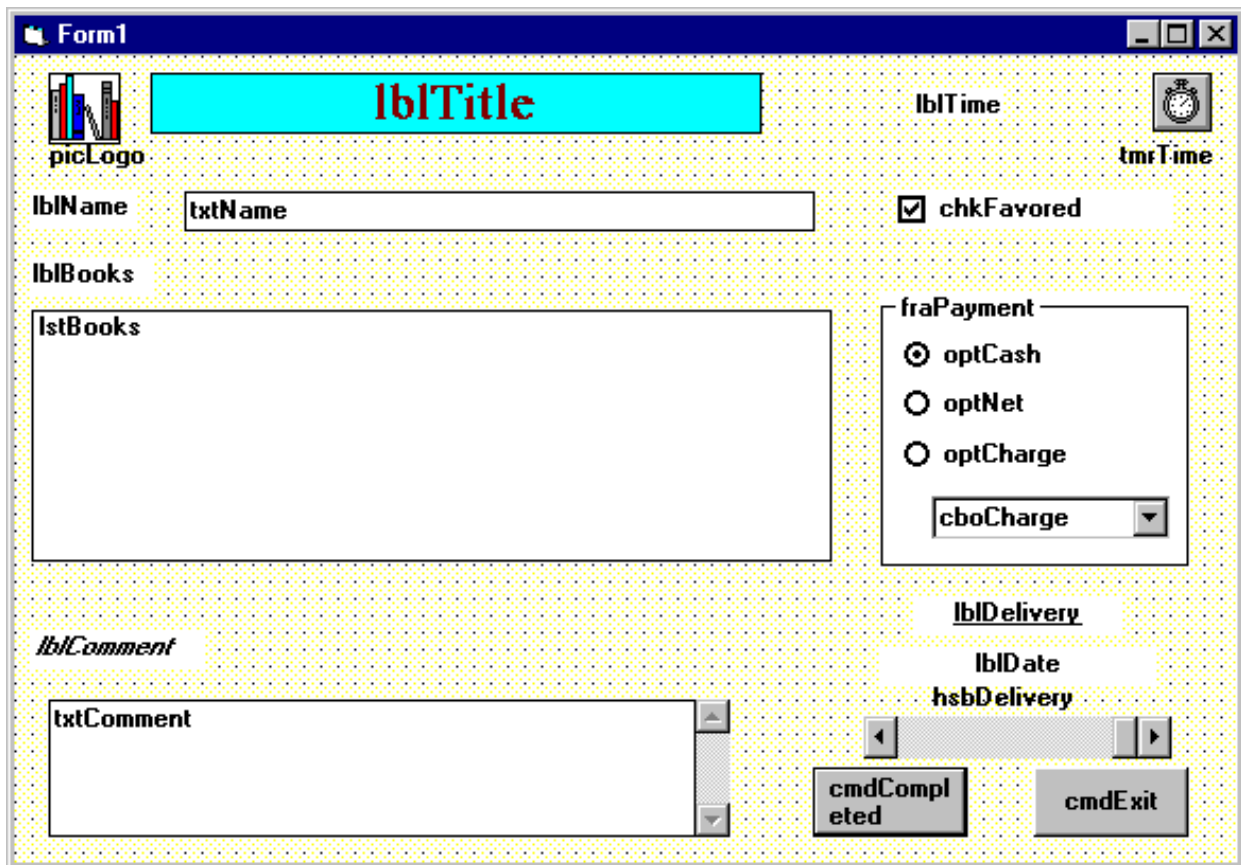
The screenshot shows a Windows-style application window titled "Book Reservation System" with a subtitle "Do It Yourself Bookstore". The window contains the following controls:

- Text Box:** One for "Name".
- List Box:** One for "Books" (labeled "lstBooks").
- Text Area:** One for "Comments".
- Checkbox:** One checked checkbox for "Favored Customer".
- Radio Buttons:** Three for "Payment Method": "Cash on Receipt" (selected), "Net 10 Days", and "Charge".
- Dropdown Menu:** One for "Bookstore".
- Image:** One "Time Display" clock icon.
- Text Box:** One for "Delivery In:".
- Buttons:** Two buttons labeled "Completed" and "Exit".

Control Type

Number Present

Here is the form with the standard names for each of the controls. How did you do?



Exercise 2. Create a form with the following properties:

Object	Property	Value
Form1	(Name)	frmBookstore
	Text	Book Reservation System
	BackColor	Light blue 192,255,255
	+Location	
	X	71
	Y	90
	+Size	
	Width	674
Height	471	

Exercise 3. Place the seven Labels on the screen and set the following properties:

Control Name	Property	Value
lblTitle	(Name)	lblTitle
	BackColor	'Lt Blue 192,255,255
	BorderStyle	1 'Fixed Single
	FontName	MS Sans Serif
	FontSize	18
	ForeColor	'Red 192,0,0
	+Location	
	X	120
	Y	10
	+Size	
	Width	280
	Height	32
	Text	Do It Yourself Bookstore
TextAlignment	Middle center	
lblTime	(Name)	lblTime
	AutoSize	True
	+Location	
	X	471
	Y	10
	+Size	
	Width	Not set because of AutoSize True
	Height	16
Text	Time Display	
lblName	(Name)	lblName
	+Location	
	X	8
	Y	64
	+Size	
	Width	57
	Height	19
Text	Name:	
lblBooks	(Name)	lblBooks
	+Location	
	X	8
	Y	104
	+Size	
	Height	19

Control Name	Property	Value
lblComment	Name	lblComment
	FontItalic	True
	+Location	
	X	10
	Y	152
	+Size	
	Width	112
	Height	19
	Text	Comments:
lblDelivery	(Name)	lblDelivery
	FontUnderline	True
	+Location	
	X	352
	Y	230
	+Size	
	Width	112
	Height	19
	TextAlign	Middle Center
Text	Delivery In:	
lblDate	(Name)	lblDate
	+Location	
	X	352
	Y	256
	+Size	
	Width	112
	Height	19
	Text	erase everything using delete key i.e., empty
TextAlign	'Middle Center'	

Exercise 4. Place the Two TextBoxes on the screen and set the following properties:

Control Name	Property	Value
txtName	(Name)	txtName
	+Location	
	X	64
	Y	64
	+Size	
	Width	288
	Height	20
	Text	erase everything using delete key i.e., empty
txtComment	(Name)	txtComment
	Multiline	True
	ColumnWidth	Default value of zero (0) thus a default width is assigned to each column. If the ListBox is a multicolumn list box, this property returns the current width of each column in the list.
	+Location	
	X	18
	Y	280
	+Size	
	Width	296
	Height	75
	ScrollBars	2 'Vertical
	Text	erase everything using delete key i.e., empty

Exercise 5. Place the Picture Box on the screen and set the following properties:

Control Name	Property	Value
picLogo	(Name)	picLogo
	+Location	
	X	32
	Y	8
	Picture	from the sample icons choose BOOKS03.ICO or some icon
	+SizeMode	
	AutoSize	False

Exercise 6. Place the Group Box on the screen and set the following properties:

Control Name	Property	Value
grpPayment	Name	grpPayment
	+Location	
	X	384
	Y	88
	+Size	
	Width	144
	Height	128
	Text	Payment Method

Exercise 7. Place the Three Radio Buttons on the screen inside of the group box and set the following properties:

Control Name	Property	Value
rdoCash	Name	rdoCash
	Checked	True
	+Location	
	X	16
	Y	24
	+Size	
	Width	120
	Height	24
	Text	Cash on Receipt
rdoNet	Name	rdoNet
	+Location	
	X	16
	Y	49
	+Size	
	Width	120
	Height	24
	Text	Net 10 Days
	rdoCharge	Text
+Location		
X		16
Y		75
Name		rdoCharge
+Size		
Width		120
Height		16

Exercise 8. Place the Checkbox on the screen and set the following properties:

Control Name	Property	Value
chkFavored	Name	chkFavored
	Checked	True
	+Location	
	X	384
	Y	64
	+Size	
	Width	144
	Height	24
	Text	Favored Customer

Exercise 9. Place the ListBox and ComboBox on the screen and set the following properties:

Control Name	Property	Value
lstBooks	(Name)	lstBooks
	+Location	
	X	16
	Y	128
	MultiColumn	True
	+Size	
	Width	336
	Height	95
	SelectionMode	MultiSimple
Sorted	True	
cboCharge	Name	cboCharge
	Enabled	False
	Items	Visa enter MasterCard enter Amer.Express enter Discover enter
	+Location	
	X	8
	Y	104
	+Size	
	Width	121
	Height	21
	Text	Delete the default contents

Exercise 10. Place the Horizontal Scroll Bar on the screen and set the following properties:

Control Name	Property	Value
hsbDelivery	(Name)	hsbDelivery
	LargeChange	5
	+Location	
	X	392
	Y	288
	Maximum	45
	Minimum	1
	+Size	
	Width	136
	Height	16
	Value	45

Exercise 11. Place the Timer below the screen and set the following properties:

Control Name	Property	Value
tmrTime	Name	tmrTime
	Enabled	True
	Interval	1000 This is in milliseconds.

Exercise 12. Place the two Command Buttons on the screen and set the following properties:

Control Name	Property	Value
btnCompleted	Name	btnCompleted
	+Location	
	X	376
	Y	328
	+Size	
	Width	75
	Height	23
	Text	&Completed
btnExit	Name	btnExit
	Caption	&Exit
	+Location	
	X	464
	Y	328
	+Size	
	Width	75
Height	23	

Control Name	Property	Value
frmBookStore	AcceptButton	btnCompleted
	CancelButton	btnExit

Exercise 13. Set the tab order for a top-to-bottom and left-to-right within a level.

Control Name	TabIndex	Value
txtName	0	
chkFavored	1	
lstBooks	2	
rdoCash	3.0	
rdoNet	3.1	
rdoCharge	3.2	
cboCharge	3.3	
txtComment	4	
hsbDelivery	5	
btnCompleted	6	
btnExit	7	

Exercise 14. Enter the following code modules in the proper locations.

```
'Declare variables that will have the entire form as a scope.  
'With that level of scope their values can be passed from one  
' event procedure on the form to another.
```

```
Dim Customer As String      'Customer's name  
Dim Books As String        'Books ordered  
Dim Pay As String          'Payment method  
Dim Deliv As String        'Delivery date
```

```
'A more compact version which is the same!!!!  
'Dim Customer, Books, Pay, Deliv As String
```

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

    'The user has indicated that the order is completed. The order should be
    ' written to a disk file. We will just display it using a messagebox.

    Dim N As Integer           'Loop counter
    'Dim CRLF As String        'Carriage return, line feed
    'CRLF = Chr(13) + Chr(10)  'See ANSI codes using help

    Books = ""                 'Will hold the list of selected books
    Customer = txtName.Text & " has ordered:" & vbCrLf & vbCrLf

    'Loop through the list of displayed books. For each selected book, place the
    ' name on the string of selected books.
    'SELECTEDItems is a parallel array containing text values of selected
    ' items from lstBooks.
    'List is the array of displayed list items.

    For N = 0 To (lstBooks.SelectedItems.Count - 1)

        Books = Books & "How To " & lstBooks.SelectedItems(N) + vbCrLf

    Next N

    Deliv = vbCrLf & "To be delivered on "

    'Now is in date format (see help Now). Val gleans the digits from a string
    ' and provides a number (see help Val) that is converted to Double.

    Deliv = Deliv & Format(DateAdd(DateInterval.Day, _
        CDbl(Val(lblDate.Text)), Now), "MMMM d, yyyy") & vbCrLf

    ' The above statement uses the .text value of the lbldate to add to the current
    ' date. It could have used hsbDelivery.Value instead and not needed VAL

    If rdoCash.Checked = True Then
        Pay = vbCrLf & "To be paid with cash." & vbCrLf
    ElseIf rdoNet.Checked = True Then
        Pay = vbCrLf & "To be billed Net 10 days." & vbCrLf
    ElseIf rdoCharge.Checked = True Then
        Pay = vbCrLf & "To be charged to the " & cboCharge.Text & " account." &
vbCrLf
    End If

    'Use a message box to display the results.
    'The first parameter is a concatenated string with CR and LF included.
    'The second parameter is the Title of the dialog box.
    'The third parameter indicates that OK and Cancel buttons will be displayed.
    'The fourth parameter indicates that an information icon will be shown.

    MessageBox.Show(Customer & Books & Pay & Deliv, "Order", _
        MessageBoxButtons.OKCancel, MessageBoxIcon.Information, _
        MessageBoxDefaultButton.Button1)

End Sub
```

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

    End
End Sub

Private Sub chkFavored_CheckStateChanged(ByVal sender As Object, _
ByVal e As System.EventArgs) Handles chkFavored.CheckStateChanged

    'Based on the chkFavored.Checked property add the Bookstore Charge account to
    ' the combo box and change the minimum value for the delivery scroll
    ' bar since favored customers may receive delivery in less than 5 days.

    If chkFavored.Checked = True Then      'Favored customer is now a boolean type
        cboCharge.Items.Add("Bookstore")
        hsbDelivery.Minimum = 1            'Minimum scroll bar value
        cboCharge.Text = "Bookstore"
    Else                                     'Non-favored customer
        cboCharge.Items.Remove("Bookstore")
        hsbDelivery.Minimum = 5
        hsbDelivery.Value = 45
        cboCharge.Text = cboCharge.Items(0)
    End If

End Sub

Private Sub frmBookStore10_Load(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles MyBase.Load

    'Format the time and date for the form display
    lblTime.Text = Format(Now, "MMMM d,yyyy  h:mm:ss")

    lblDate.Text = Str(hsbDelivery.Value) & " Days"

    'Add the items to the list box. Should come from the database.
    lstBooks.Items.Add("Create Paper Crafts")
    lstBooks.Items.Add("Create Jewelry")
    lstBooks.Items.Add("Create Dolls")
    lstBooks.Items.Add("Build Dollhouses")
    lstBooks.Items.Add("Build Birdhouses")
    lstBooks.Items.Add("Build Go Carts")
    lstBooks.Items.Add("Sew")
    lstBooks.Items.Add("Knit")
    lstBooks.Items.Add("Weave")
    lstBooks.Items.Add("Collect Stamps")
    lstBooks.Items.Add("Collect Coins")
    lstBooks.Items.Add("Sail")
    lstBooks.Items.Add("Golf")
    lstBooks.Items.Add("Play Tennis")
    lstBooks.Items.Add("Play Baseball")
    lstBooks.Items.Add("Play Basketball")
    lstBooks.Items.Add("Play Football")
    lstBooks.Items.Add("Play Hockey")

    'Add the items to the combo box. Done at design time.
    'cboCharge.Items.Add("Visa")
    'cboCharge.Items.Add "MasterCard"
    'cboCharge.Items.Add "Amer. Express"
    'cboCharge.Items.Add "Discover"

End Sub
```

```
Private Sub hsbDelivery_Scroll(ByVal sender As System.Object, _
    ByVal e As System.Windows.Forms.ScrollEventArgs) _
    Handles hsbDelivery.Scroll
    'The Scroll event occurs continuously while the user drags the
    ' scroll box.

    lblDate.Text = Str(hsbDelivery.Value) & " Days"

End Sub

Private Sub hsbDelivery_ValueChanged(ByVal sender As Object, ByVal e As
System.EventArgs) Handles hsbDelivery.ValueChanged
    lblDate.Text = Str(hsbDelivery.Value) & " Days"

End Sub

Private Sub rdoCash_Click(ByVal sender As Object, ByVal e As System.EventArgs)
Handles rdoCash.Click

    'Disable the charge combo box since they are paying cash

    cboCharge.Enabled = False

End Sub

Private Sub rdoCharge_Click(ByVal sender As Object, ByVal e As System.EventArgs)
Handles rdoCharge.Click

    'Enable the charge combo box since they are charging

    cboCharge.Enabled = True

End Sub

Private Sub rdoNet_Click(ByVal sender As Object, ByVal e As System.EventArgs)
Handles rdoNet.Click

    'Disable the charge combo box since they are paying cash

    cboCharge.Enabled = False

End Sub

Private Sub tmrTime_Tick(ByVal sender As Object, ByVal e As System.EventArgs)
Handles tmrTime.Tick

    'The NOW function uses the computer's internal clock to return the current
    ' date and time.
    'Format function converts the information into string form and specifies
    ' the format

    lblTime.Text = Format(Now, "MMMM d, yyyy h:mm:ss")

End Sub

End Class
```