

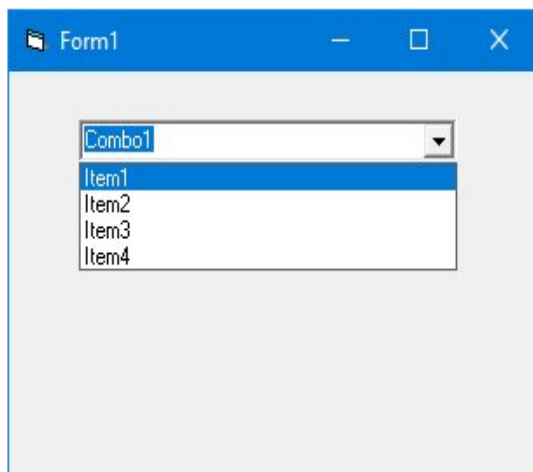
Lecture No 7 and 8

The ComboBox

The function of the Combo Box is also to present a list of items where the user can click and select the items from the list. However, the user needs to click on the small arrowhead on the right of the combo box to see the items which are presented in a drop-down list. In order to add items to the list, we can also use the AddItem method. For example, if we wish to add a number of items to Combo box 1, we can key in the following statements

```
Private Sub Form_Load ( )  
    Combo1.AddItem "Item1"  
    Combo1.AddItem "Item2"  
    Combo1.AddItem "Item3"  
    Combo1.AddItem "Item4"  
End Sub
```

The Output



The CheckBox

The Check Box control lets the user select or unselect an option. When the Check Box is checked, its value is set to 1 and when it is unchecked, the value is set to 0. We can include the statements `Check1.Value=1` to mark the Check Box and `Check1.Value=0` to unmark the Check Box, as well as use them to initiate certain actions. For example, the following program will show which items are selected in a message box.

```
Private Sub Cmd_OK_Click()  
    If Check1.Value = 1 And Check2.Value = 0 And Check3.Value = 0 Then  
        MsgBox "Apple is selected"  
    ElseIf Check2.Value = 1 And Check1.Value = 0 And Check3.Value = 0 Then  
        MsgBox "Orange is selected"  
    ElseIf Check3.Value = 1 And Check1.Value = 0 And Check2.Value = 0 Then  
        MsgBox "Orange is selected"  
    ElseIf Check2.Value = 1 And Check1.Value = 1 And Check3.Value = 0 Then  
        MsgBox "Apple and Orange are selected"  
    ElseIf Check3.Value = 1 And Check1.Value = 1 And Check2.Value = 0 Then  
        MsgBox "Apple and Pear are selected"  
    ElseIf Check2.Value = 1 And Check3.Value = 1 And Check1.Value = 0 Then  
        MsgBox "Orange and Pear are selected"  
    Else  
        MsgBox "All are selected"  
    End If  
End Sub
```



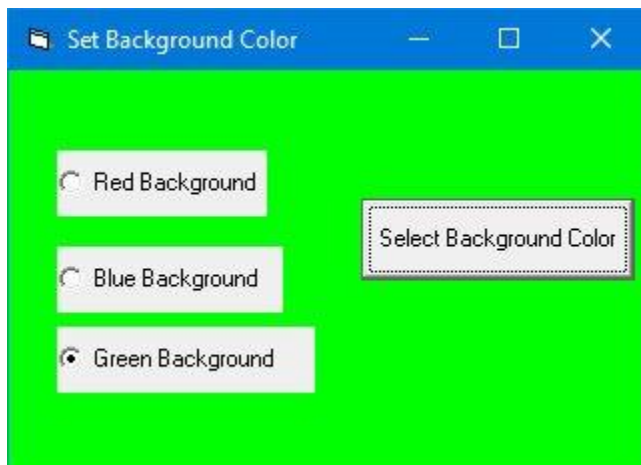
The Option Button:

The Option Button control also lets the user select one of the choices. However, two or more Option buttons must work together because as one of the option buttons is selected, the other Option button will be unselected. In fact, only one Option Box can be selected at one time. When an option box is selected, its value is set to “True” and when it is unselected; its value is set to “False”.

For example, we want to change the background color of the form according to the selected option. We insert three option buttons and change their captions to "Red Background", "Blue Background" and "Green Background" respectively. Next, insert a command button and change its name to cmd_SetColor and its caption to "Set Background Color". Now, click on the command button and enter the following code in the code window:

```
Private Sub cmd_SetColor_Click()  
    If Option1.Value = True Then  
        Form1.BackColor = vbRed  
    ElseIf Option2.Value = True Then  
        Form1.BackColor = vbBlue  
    Else  
        Form1.BackColor = vbGreen  
    End If  
End Sub
```

Run the program, select an option and click the "Set Background Color" produces the output, as shown in figure.



Data Types

We come across all kinds of data in our daily life. For example, we need to handle data such as names, addresses, money, date, quotes, etc. In Visual Basic, we have to deal with all sorts of data, some can be mathematically calculated while some are in the form text or other forms. VB divides data into different types so that they are easier to manage when we need to write the code involving those data. VB6 classifies the information mentioned above into two major data types, they are the numeric data types and the non-numeric data types.

Numeric Data Types

Numeric data types are types of data that consist of numbers that can be computed mathematically with standard operators. Examples of numeric data types are height, weight, share values, the price of goods, monthly bills, fees and others. In Visual Basic, numeric data are divided into 7 types, depending on the range of values they can store.

Calculations that only involve round figures can use Integer or Long integer in the computation. Programs that require high precision calculation need to use Single and Double precision data types, they are also called floating point numbers. For currency calculation, we can use the currency data types. Lastly, if even more precision is required to perform calculations that involve many decimal points, we can use the decimal data types. These data types are summarized in following table.

Numeric Data Types		
Type	Storage	Range of Values
Byte	1 byte	0 to 255
Integer	2 bytes	-32,768 to 32,767
Long	4 bytes	-2,147,483,648 to 2,147,483,648
Single	4 bytes	-3.402823E+38 to -1.401298E-45 for negative values 1.401298E-45 to 3.402823E+38 for positive values.

Double	8 bytes	-1.79769313486232e+308 to -4.94065645841247E-324 for negative values 4.94065645841247E-324 to 1.79769313486232e+308 for positive values.
Currency	8 bytes	-922,337,203,685,477.5808 to 922,337,203,685,477.5807
Decimal	12 bytes	+/- 79,228,162,514,264,337,593,543,950,335 if no decimal is use +/- 7.9228162514264337593543950335 (28 decimal places).

Non-numeric Data Types

Nonnumeric data types are data that cannot be manipulated mathematically. Non-numeric data comprises string data types, date data types, boolean data types that store only two values (true or false), object data type and Variant data type. They are summarized in the following table.

Nonnumeric Data Types		
Data Type	Storage	Range
String(fixed length)	Length of string	1 to 65,400 characters
String(variable length)	Length + 10 bytes	0 to 2 billion characters
Date	8 bytes	January 1, 100 to December 31, 9999
Boolean	2 bytes	True or False
Object	4 bytes	Any embedded object
Variant(numeric)	16 bytes	Any value as large as Double
Variant(text)	Length+22 bytes	Same as variable-length string

Suffixes for Literals

Literals are values that we assign to data. In some cases, we need to add a suffix behind a literal so that VB can handle the calculation more accurately. For example, we can use num=1.3089# for a Double type data. Some of the suffixes are displayed in the table, below.

Suffixes for Literals	
Suffix	Data Type
&	Long
!	Single
#	Double
@	Currency

In addition, we need to enclose string literals within two quotations and date and time literals within two # sign. Strings can contain any characters, including numbers. The following are few examples:

```
memberName="Turban, John."  
TelNumber="1800-900-888-777"  
LastDay=#31-Dec-00#  
ExpTime=#12:00 am#
```