

# Chapter 6

## String Manipulation

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❖ Learn how to manipulate Strings

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String manipulation is an important part of programming because it helps to process data that come in the form of non-numeric types such as name, address, city, book title and etc.

### 6.1 String Manipulation Using + and & signs.

Strings can be manipulated using the & sign and the + sign, both perform the string concatenation which means combining two or more smaller strings into a larger string. For example, we can join "Visual" and "Basic" into "Visual Basic" using "Visual"&"Basic" or "Visual "+"Basic", as shown in the example below.

#### Example 6.1

```
Public Class Form1
Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button1.Click
Dim text1, text2, text3 As String
text1 = "Visual"
text2 = "Basic"
text3 = text1 + text2
Label1.Text = text3
End Sub
End Class
```

The line `text3=text1+ text2` can be replaced by `text3=text1 & text2` and produced the same output. However, if one of the variables is declared as numeric data type, you cannot use the + sign, you can only use the & sign.

**Example 6.2**

```
Dim text1, text3 as string
```

```
Dim Text2 As Integer
```

```
text1 = "Visual"
```

```
text2=22
```

```
text3=text1+text2
```

```
Label1.Text = text3
```

This code will produce an error because of data mismatch. However, using & instead of + will be all right.

**Example 6.3**

```
Dim text1, text3 as string
```

```
Dim Text2 As Integer
```

```
text1 = "Visual"
```

```
text2=22
```

```
text3=text1 & text2
```

```
Label1.Text = text3
```

You can combine more than two strings to form a larger string, like the following example:

**Example 6.4**

```
Public Class Form1
```

```
Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles Button1.Click
```

```
Dim text1, text2, text3, text4, text5, text6 As String
```

```
text1 = "Welcome"  
text2 = "to"  
text3 = "Visual"  
text4 = "Basic"  
text5 = "2010"  
text6 = text1 + text2 + text3  
Label1.Text = text4  
  
End Sub  
End Class
```

Running the above program will produce the following screen shot.

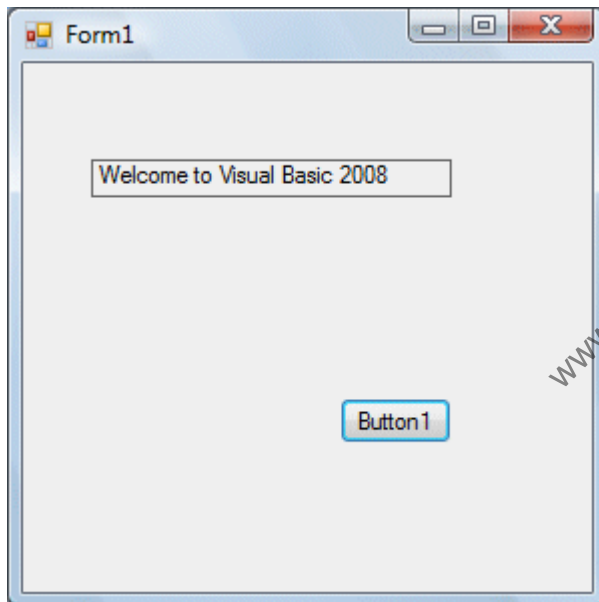


Figure 6.1: The Screen Shot

## 6.2 String Manipulation Using VB2010 Built-in Functions

A function is similar to a normal procedure but the main purpose of the function is to accept a certain input and return a value, which is passed on to the main program to finish the execution. VB2010 has numerous built-in string manipulation functions but we will only discuss a few here. You will learn more about these functions in later Chapters.

### 6.2 (a) the Len Function

The length function returns an integer value that is the length of a phrase or a sentence, including the empty spaces. The format is

## Len (“Phrase”)

For example,

Len (Visual Basic) = 12 and

Len (welcome to VB tutorial) = 22

### Example 6.5

```
Public Class Form1
```

```
Private Sub Button1_Click(ByVal sender As System.Object, ByVal e  
As System.EventArgs) Handles Button1.Click
```

```
Label1.Text = Len(TextBox1.Text)
```

```
End Sub
```

```
End Class
```

The output:

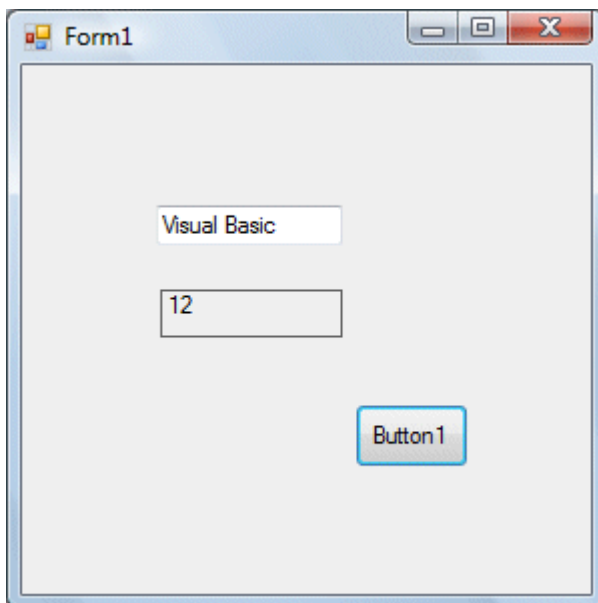


Figure 6.2

## 6.2(b) the Right Function

The Right function extracts the right portion of a phrase. The format for Visual Basic 6 is

**Right ("Phrase", n)**

Where n is the starting position from the right of the phrase where the portion of the phrase is going to be extracted. For example,

`Right("Visual Basic", 4) = asic`

However, this format is not applicable in VB2010. In VB2010, we need to use the following format

`Microsoft.VisualBasic.Right("Phrase",n)`

### Example 6.6

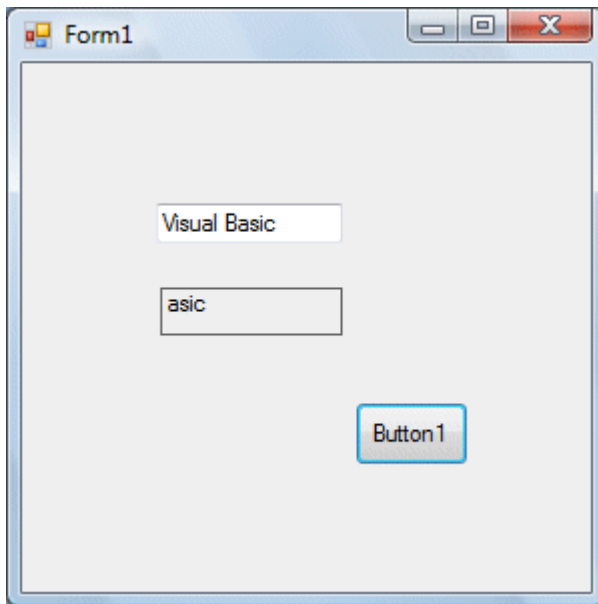
```
Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As  
System.EventArgs) Handles Button1.Click  
Dim text1 As String
```

```
text1 = TextBox1.Text
```

```
Label1.Text = Microsoft.VisualBasic.Right(text1, 4)
```

```
End Sub
```

The above program will return four right most characters of the phrase entered into the textbox, as shown in Figure 6.3



**Figure 6.3**

\*The reason of using the full reference is because many objects have the Right properties so using Right on its own will make it ambiguous to VB2010.

### 6.2(c) the Left Function

The Left function extract the left portion of a phrase. The format is

```
Microsoft.VisualBasic.Left("Phrase",n)
```

Where n is the starting position from the left of the phase where the portion of the phrase is going to be extracted. For example,

```
Microsoft.VisualBasic.Left ("Visual Basic", 4) = Visu .
```

We will learn more about string manipulation function in Chapter 11.

#### Summary

- In section 6.1, you learned how to manipulate strings using + and & signs. The + and & signs are used to join up two strings.
- In section 6.2, you learned how to use string manipulation functions. Among the functions are Len, Right and Left,