Visual Basic tutorial - currency converter

We will use visual studio to create a currency converter where we can convert a UK currency pound to other currencies.

![Currency Converter Interface](image)

This is the interface for the application. Let's look at these closely:

<table>
<thead>
<tr>
<th>Radio Button 1</th>
<th>Text: Euro</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio Button 2</td>
<td>Text: Rupee</td>
</tr>
<tr>
<td>Radio Button 3</td>
<td>Text: Dollar</td>
</tr>
<tr>
<td>Radio Button 4</td>
<td>Text: JPY</td>
</tr>
<tr>
<td>Radio Button 5</td>
<td>Text: AUD</td>
</tr>
<tr>
<td>Radio Button 6</td>
<td>Text: CNY</td>
</tr>
<tr>
<td>Textbox</td>
<td>To enter the number in decimals</td>
</tr>
<tr>
<td>Label 1</td>
<td>To show total. Text: ...</td>
</tr>
<tr>
<td>Label 2</td>
<td>Text: Total:</td>
</tr>
<tr>
<td>Label 3</td>
<td>Text: £ to others</td>
</tr>
<tr>
<td>Button</td>
<td>Text: Convert</td>
</tr>
</tbody>
</table>

First step is let's double click on the button

```vbnet
Public Class Form1

Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles Button1.Click
    ' Code here
End Sub
End Class
```

This will automatically add this `button1_click` function to the code.

Right before the that function let's declare the currency variable.

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We are declaring a double variable because double can contain decimal numbers in a very large amount. Inside an integer we can only hold 10, 11, 12, 13 or -10, -11, -12, or -13 whole numbers. However to ensure we are achieving the right calculation for currency we need to use decimal numbers such as £3.20 or $100.99 and so on.

Now let's add this highlighted line inside the button 1 click function. This line is taking the label 1 and inserting our currency converting calculations to it.

We are declaring to change the label 1 text, we will take the value from the currency variable and multiply it by the number user enters inside the text box 1.

Now we need to give the currency variable some value depending on the radio button chosen.

Before we do that let's look at some current currency exchange rates.

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This is YAHOO CURRENCY CONVERTER. Google it.

At this moment here are the exchange rates for the currency we are looking for

<table>
<thead>
<tr>
<th>Our currency</th>
<th>Exchange rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>£1</td>
<td>1.2922 Euro</td>
</tr>
<tr>
<td>£1</td>
<td>1.4219 Dollar</td>
</tr>
<tr>
<td>£1</td>
<td>160.1115 JPY</td>
</tr>
<tr>
<td>£1</td>
<td>1.9088 AUD</td>
</tr>
<tr>
<td>£1</td>
<td>95.7575 Rupee</td>
</tr>
<tr>
<td>£1</td>
<td>9.2498 CNY</td>
</tr>
</tbody>
</table>

We can go in 2 decimal points for example change euro from 1.2922 to 1.29 and so on.

Double click on the Euro radio button

```vbnet
Public Class Form1

    Dim currency As Double

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

        Label1.Text = currency * Convert.ToDouble(TextBox1.Text)
    End Sub

    Private Sub RadioButton1_CheckedChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles RadioButton1.CheckedChanged

        currency = 1.29
    End Sub
End Class
```

radio button 1 checked changed function will inserted automatically.

inside that function before the end sub we add the currency = 1.29. Here we are using our global variable and giving it a value.

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Now double click on the rupee radio button

```vbnet
Public Class Form1
    Dim currency As Double

    Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles Button1.Click
        Label1.Text = currency * Convert.ToDouble(TextBox1.Text)
    End Sub

    Private Sub RadioButton1_CheckedChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles RadioButton1.CheckedChanged
        currency = 1.29
    End Sub

    Private Sub RadioButton3_CheckedChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles RadioButton3.CheckedChanged
        currency = 95.75
    End Sub

    Private Sub RadioButton4_CheckedChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles RadioButton4.CheckedChanged
        currency = 1.42
    End Sub

    Private Sub RadioButton2_CheckedChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles RadioButton2.CheckedChanged
        currency = 160.11
    End Sub
End Class
```

Radio button 3 checked changed function is now inserted by visual studio and inside that we change the currency value to 95.75, You get the idea now. Lets add the rest.

Here is the final code

```vbnet
Public Class Form1
    Dim currency As Double

    Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles Button1.Click
        Label1.Text = currency * Convert.ToDouble(TextBox1.Text)
    End Sub

    Private Sub RadioButton1_CheckedChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles RadioButton1.CheckedChanged
        currency = 1.29
    End Sub

    Private Sub RadioButton3_CheckedChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles RadioButton3.CheckedChanged
        currency = 95.75
    End Sub

    Private Sub RadioButton4_CheckedChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles RadioButton4.CheckedChanged
        currency = 1.42
    End Sub

    Private Sub RadioButton2_CheckedChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles RadioButton2.CheckedChanged
        currency = 160.11
    End Sub
End Class
```

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Now let's test the program

As you can see the program is responding the currency change and its giving us the right value for 1 pound. Try out your program.

There is an alternative way to do this by using IF statement and keeping our program rather simple then before.

As you can see we have 6 functions running behind the scene right now. How about we change it to just one function and a few IF statements instead.

Let's try

```vbnet
Public Class Form1
    Dim currency As Double

    Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles Button1.Click
        If (RadioButton1.Checked = True) Then
            currency = 1.29
        End If
        If (RadioButton2.Checked = True) Then
            currency = 160.11
        End If
    End Sub
End Class
```

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End If
If (RadioButton3.Checked = True) Then
  currency = 95.75
End If
If (RadioButton4.Checked = True) Then
  currency = 1.42
End If
If (RadioButton5.Checked = True) Then
  currency = 1.9
End If
If (RadioButton6.Checked = True) Then
  currency = 9.24
End If

Label1.Text = currency * Convert.ToDateTime(TextBox1.Text)
End Sub
End Class

It still works as the same.

For the next task
Add some more currencies you want to change and see how that works out.