Visual Basic Currency converter

Welcome to the currency converter tutorial in visual basic. In this tutorial we will be using Visual studio 2010 (you can get for free or even the 2015 version) with visual basic programming language. This will be the second currency converter we create in visual basic. The last one we made used Radio buttons to change the currency rates. In this one we will be making one which you can dictate the currency rates and then make sure it does the maths accurately.

Let’s get started.

First create a new visual basic windows form application in visual studio and call it currency converter.

For this project we will need the following

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Textbox</td>
<td>To enter currency rate</td>
<td>TextBox1</td>
</tr>
<tr>
<td>Textbox</td>
<td>To enter country of the currency</td>
<td>TextBox2</td>
</tr>
<tr>
<td>Textbox</td>
<td>To enter the amount</td>
<td>TextBox3</td>
</tr>
<tr>
<td>Button</td>
<td>Calculate the maths</td>
<td>Button1</td>
</tr>
<tr>
<td>Label</td>
<td>Show country</td>
<td>Label1</td>
</tr>
<tr>
<td>Label</td>
<td>Currency Rate</td>
<td>Label2</td>
</tr>
<tr>
<td>Label</td>
<td>Amount</td>
<td>Label3</td>
</tr>
<tr>
<td>Label</td>
<td>Show result</td>
<td>Label4</td>
</tr>
</tbody>
</table>

(Note this is not the final list – we will add more components later on)

Here is the flow chart to explain the program

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Algorithm

Start the App
Enter country
Enter the conversion rate
Enter the amount to convert

User Clicked button
Times conversion rate with amount and return a total
END

User didn’t click button
Return back to the main window
END

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**Interface**

Drag and drop all the components from the toolbox

As you can see, we have 4 labels, 3 text boxes and 1 button for the interface of this application.

Let's start changing the texts of the labels on screen. Click on label1 and look into the properties window. You will find an option called text. Inside that we can add any text which will change Label1.

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In the properties window there are more options where you can change the font and the colour of the text. We will get to that later on.

Here is the final view of what the program should look like now with the text changed. You can change the button text as well. Let’s give it a text of calculate in it since it will calculate the conversion rate for us.

Now run the GUI to see if everything is in order. There are few ways to run an app in visual studio.

1) You can run it by access the debug option in the main menu.

2) Click on the green play button on the tool bar

3) Lastly just press F5

See if everything is to your liking and then follow along.

Now then with the interface out of the way we can concentrate on the coding.

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Our program will interact with the user through the button. So what we need to do is double click on the button add an event to it. Inside that event we can add all of our programming logic.

![Double click on this](image)

You will see this screen. This is where all the programming codes go in. Our main priority of to convert the currency user put in the boxes and return the converted value to them.

```vbnet
Public Class Form1
    Private Sub Button1_Click(sender As System.Object, e As System.EventArgs) Handles Button1.Click
        Dim conversionRate As Double = Convert.ToDouble(TextBox2.Text)
        Dim totalAmount As Double = Convert.ToDouble(TextBox3.Text)
    End Sub
End Class
```

Add the two highlighted lines in the button1_click function. We have created two `double` variables to store the information from the text boxes. Text box 2 will hold the conversion rates and text box 3 holds the amount to be converted. The reason we have created them as double is because normal `integers` cannot hold `decimal` numbers.

Integers only hold 1, 2, 400, 321, 834298 etc. it cannot hold values such as 22.8 or 1.99 etc. this is why we need to have a double variable.

```vbnet
Public Class Form1
    Private Sub Button1_Click(sender As System.Object, e As System.EventArgs) Handles Button1.Click
        Dim conversionRate As Double = Convert.ToDouble(TextBox2.Text)
        Dim totalAmount As Double = Convert.ToDouble(TextBox3.Text)
    End Sub
End Class
```

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Dim conversionRate As Double = Convert.ToDouble(TextBox2.Text)

Dim totalAmount As Double = Convert.ToDouble(TextBox3.Text)

Dim convertedTotal As Double = conversionRate * totalAmount

End Sub

End Class

Lets create another double variable this one will hold the converted total of the amount. As you can see inside the double variable we created called convertedTotal we are calculating it by conversionRate times by totalAmount.

Lets say we want to convert dollars to pounds

For this purpose 1 pound is equals to 2.50 dollars. So if we had 11 pounds to convert to dollars how much will we have?

11 (times) 2.50 = 27.50 Dollars

Makes sense? Yes

Public Class Form1

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

Dim conversionRate As Double = Convert.ToDouble(TextBox2.Text)

Dim totalAmount As Double = Convert.ToDouble(TextBox3.Text)

Dim convertedTotal As Double = conversionRate * totalAmount

Label4.Text = "From " & TextBox1.Text & " at " & conversionRate & " to Pounds in the amount of " & totalAmount & ", Total is: " & convertedTotal

End Sub

End Class

Now here is the results line. In this line we are taking label4 and changing the text dynamically to suit our purpose. As you can see first we are calling the label4.text which handles all the string inside the label. We will change it to show for example “Converted from US at 2.50 to pounds in the amounts of 11 total is 27.50”.

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Result is accurate.

This is a working currency converter now. However this program will only convert every other currency to POUND so we need a system where we can change between pound to others as well.

In order to that we will need to another textbox and then change the GUI to the following.

We have added another text box and label to the program and changed the value of country to “From” and the other label to “To”. Now we can manipulate the program to show which currency and from where it was converted.

When you are making changes make sure you understand the changes I made to the GUI. Lets make some changes to the code to reflect our new components.

```vbnet
Private Sub Button1_Click(sender As System.Object, e As System.EventArgs) Handles Button1.Click
    Dim conversionRate As Double = Convert.ToDouble(TextBox2.Text)
    Dim totalAmount As Double = Convert.ToDouble(TextBox3.Text)
    Dim convertedTotal As Double = conversionRate * totalAmount

    Label4.Text = "From " & TextBox1.Text & " at " & conversionRate & " to " & TextBox4.Text & " in the amount of " & totalAmount & ", Total is: " & convertedTotal

    Next to code

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Look at the highlighted code in the box. We are calling the value of text box 4 which is the TO information box in the GUI. Now let's run the same calculation as before from US to UK rate is at 2.50 amount of 11

![Currency Converter](image1)

Now the program shows both currencies.

Let's convert from UK to US dollars now.

According to GOOGLE the exchange rate is

![Currency Converter](image2)

1 dollar is equals to 0.68 pounds. So let's do the conversion of 11 dollars to pound.

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Our program seems to be off by a few pence however you need to remember that the money exchange rates are calculating with several decimal points now just 2. So overall the program works and it outputs the right amount.

Lets look another flow chart with the new GUI settings.

Its still the same as it was before only added the Enter from currency and Enter to currency. The overall program will work exactly as before.

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Now the program needs a help screen 😊

Every program needs a help screen. **Now time to add another button called help to the GUI.**

Also we need to add another FORM to the project.

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Right click on the project

Add → Windows Form

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Name it help and click on add

Inside your solution explorer there is help.vb file. That is another form just like the one we have been working on before. We will now right click on the help.vb

Click on view designer.

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This is the new empty form. It’s time to add some helpful tips here for the user right.

Let’s add a label and call it help. And then add a text box.

See that little triangle on the corner of the text box. Click on that and select Multiline.

Instead of writing a line in different labels we can do it this way. Much simpler.

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Now stretch it to fit the box.

Here is the help screen text.

**In this application you can change currencies between countries.**
Enter the country of the currency first
Enter the country you want to convert it to
Enter the conversion rate such as the day exchange rate of the currencies.
Enter the total amount to convert
Click on calculate.

Click on the textbox and check the properties window for Text option.

Now we need to change one more option in this which is ENABLED.

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Change the enabled from true to false because it disables the textbox and does not allow other users to edit the text.

Now time to link both forms together.

Double click on the help button.

```vbnet
Private Sub Button2_Click(sender As System.Object, e As System.EventArgs) Handles Button2.Click
    Dim helpScreen As help = New help()
    helpScreen.Show()
End Sub
```

This code above will be added automatically. Now add the following code in the middle of the program.

```vbnet
Private Sub Button2_Click(sender As System.Object, e As System.EventArgs) Handles Button2.Click
    Dim helpScreen As help = New help()
    helpScreen.Show()
End Sub
```

Here we are creating a variable called helpScreen and then we are giving a data type of help. Remember when we called that form help right it's the same one. We are stating that this helpScreen should be a new instance of the help form which we created earlier. This way the program will make space in the memory for the new form to be deployed to the screen.

Secondly we are calling our newly created helpScreen variable and accessing the built in function called show.

Lets test the program now.

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Okay then its all done and now go make any changes you want to.

If you have managed to get this far then

Don’t leave me hanging yo.........

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