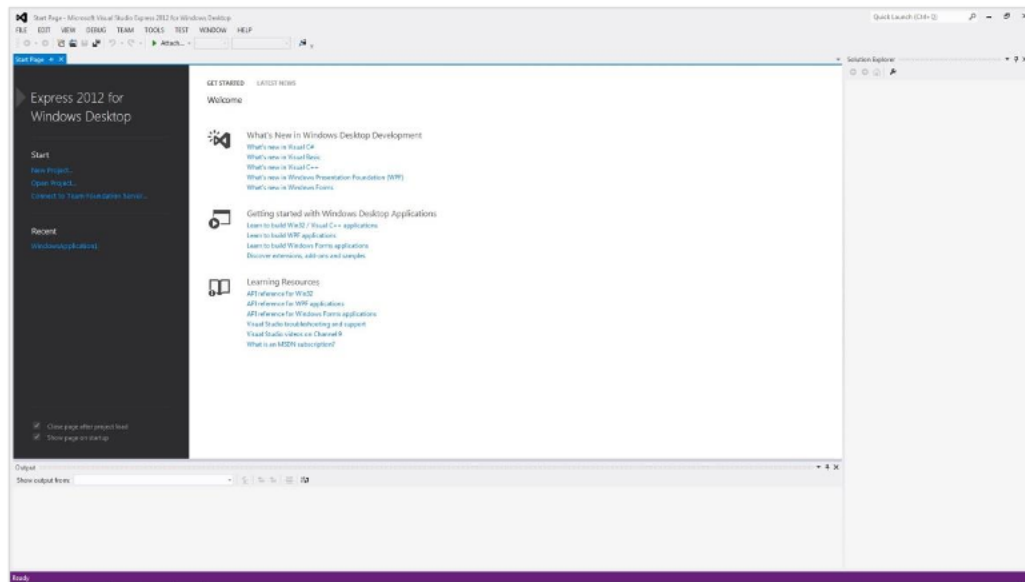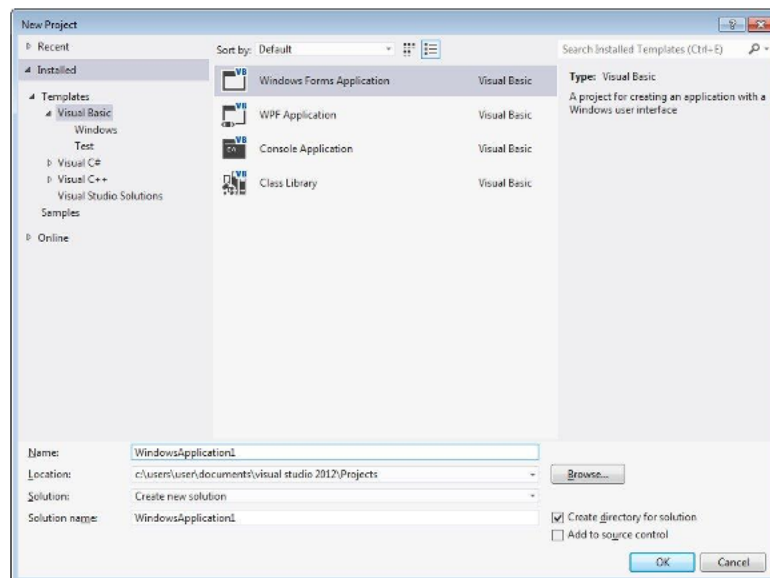# Lab 1: Getting Started with Visual Basic .NET

1. Introduction to Visual Studio.NET

Launch your Visual Basic .NET or Visual Studio software. When the software first loads, the Integrated Development Environment (IDE) is shown in the diagram below.

To start a new project, simply click on "New Project" to launched The Visual Studio New Project page as shown below:

The New Project Page comprises three templates, Visual Basic, Visual C# and Visual C++. Since we are going to learn Visual Basic.NET, we shall select Visual Basic. As we are going to learn to create windows Applications, we will select Windows Forms Application.

If you look in the Name textbox at the bottom, you'll see it says "WindowsApplication1". This is the default name for your projects. It's not a good idea to keep this name. After all, you don't want all of your projects to be called "WindowsApplication1", "WindowsApplication2", etc. So click inside this textbox and change this Name to the following:

<p align="center">MyProject</p>

Keep the Location the same as the default. This is a folder inside of your "My Documents" folder called "Visual Studio Projects". A new folder will then be created for you, and its name will be the one you typed in the "Name" textbox. All of your files for your first project are then saved in this folder. Click the OK button, and the following IDE Windows will appear.
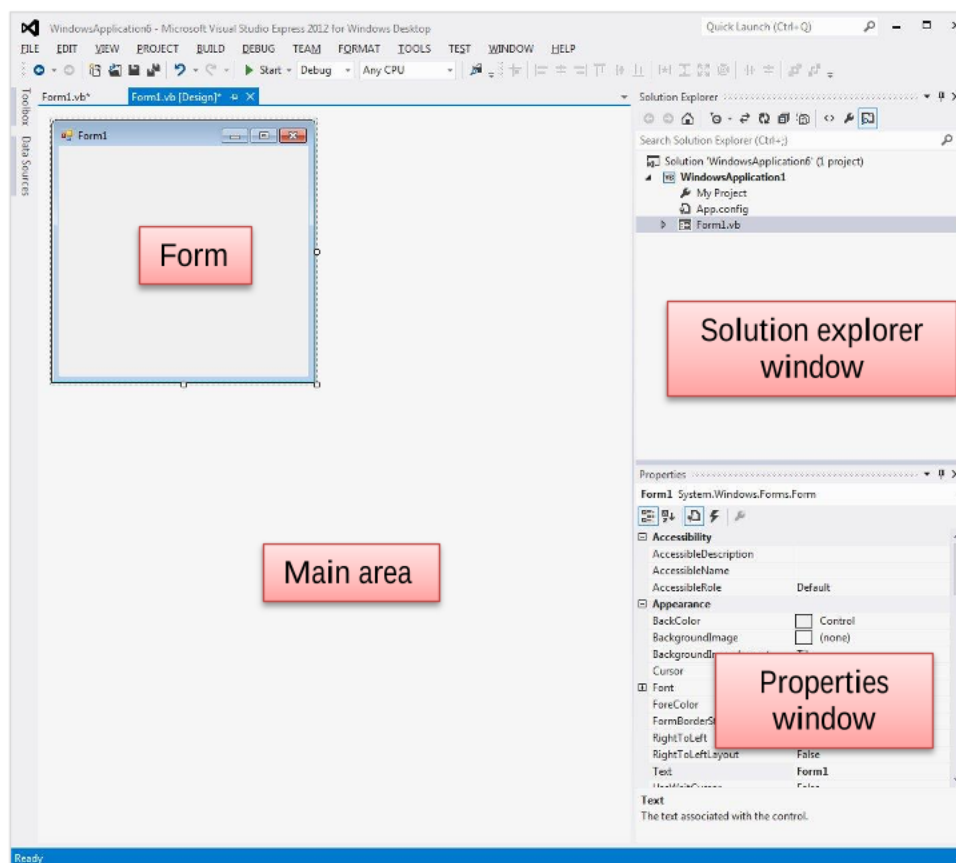

Visual Studio IDE comprises a few windows, the Form window, the Solution Explorer window and the Properties window.

Now click on the Start on the toolbar to run the program. Congratulations! You have now created your very first program. It should look like this:


2. Adding Controls Using the Toolbox

Things like buttons, textboxes, and labels are all things that you can add to your Forms. They are known as Controls, and are kept in the Toolbox for ease of use. The Toolbox can be found on the left of the screen. In the picture below, you can see the toolbox icon next to Form1:
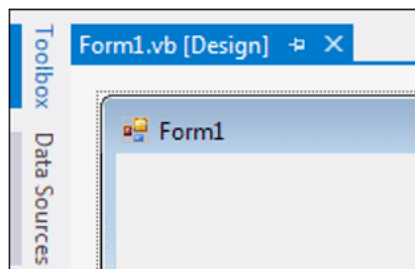
To display all the tools, move your mouse over the toolbox icon. You'll see the following automatically appear:
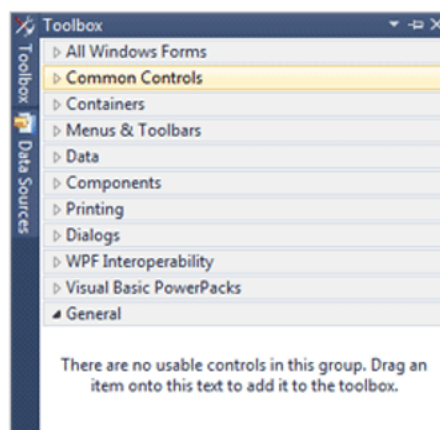
The toolbox you'll be working with first is the Common Controls toolbox. To see the tools, click on the plus or arrow symbol next to Common Controls. You'll see a long list of tools:
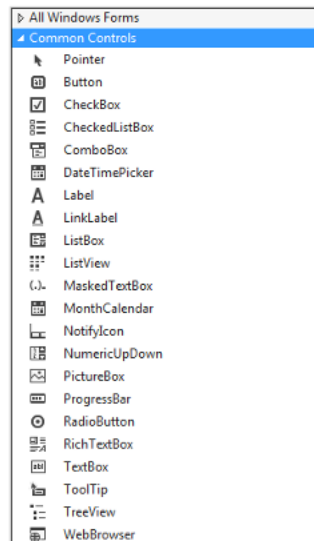

As you can see, there are a lot of tools to choose from! For this first section, we'll only be using the Button, the TextBox and the Label. If you want to keep the toolbox displayed, click the Pin icon next to the X. To close the toolbox, simply move your mouse away. Or just click the word Toolbox again.

Let's start by adding a textbox to our form. With the Common Controls displayed, do the following:

- Locate the TextBox tool
- Double click the icon
- A textbox is added to your form

The textbox gets added to the top left position of your form. To move it down, hold your mouse over the textbox and drag to a new position:
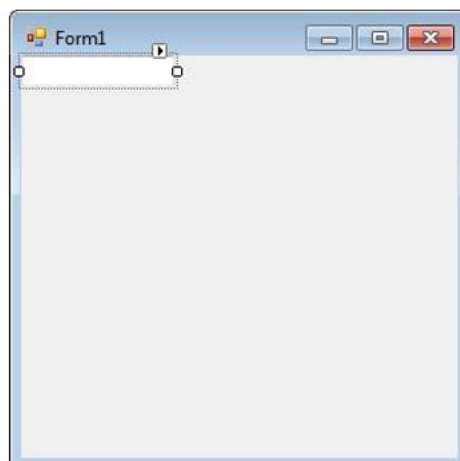
Notice the small squares around the textbox. These are sizing handles. Move your mouse over one of them. The mouse pointer turns into an extended line with arrowheads. Hold your left mouse button down and drag outwards. The textbox is resized. Play around with the sizing handles until you're happy with the size of your textbox.

Create two more textboxes by double clicking on the textbox icon in the toolbar (Or Right-click on the selected textbox and choose Copy. Then Right-click on the Form and choose Paste). Resize them to the same size as your first one. Line them up one below the other with space in between to create something that looks like the one below.
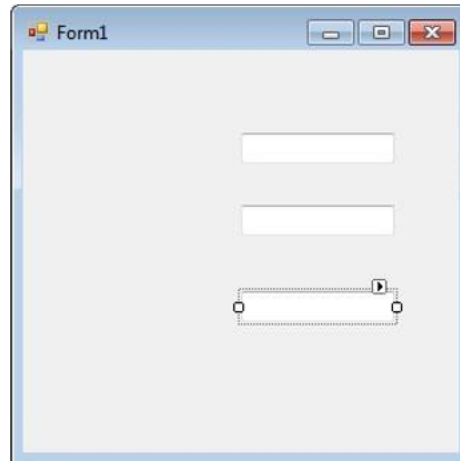
Let's add some labels near the textboxes so that your users will know what they are for.

- Locate the label control in the toolbox
- Double click the label icon
- A new label is added to your form

Click on the label to select it. Now hold your left mouse button down on the label. Keep it held down and drag it to the left of the textbox. Create two more labels, and position them to the left of the textboxes. You should now have a form like this one:
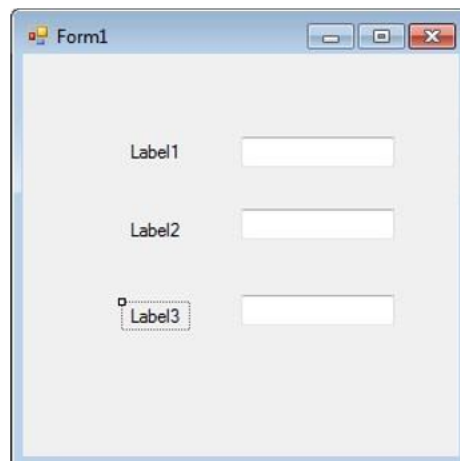
3. Working with Control Properties

We now have a form with textboxes and labels, something that looks like a form people can fill in. But those labels are not exactly descriptive, and our textboxes have the default text in them. So how can we enter our own text for the labels, and get rid of that default text for the textboxes?

To do those things, we need to discuss something called a Property. Click anywhere on the form that is not a label or a textbox, somewhere on the form's grey areas. The form should have the little sizing handles now, indicating that the form is selected. On the right of the design environment there should be the following Properties box:
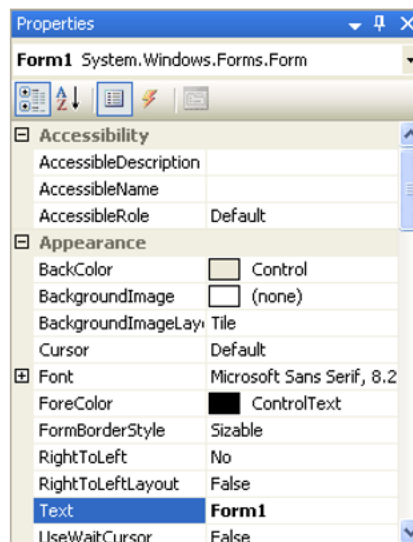
Let's change a property of a control from the Properties Box:

- Locate the word "Text" in the Property box, as in the image below
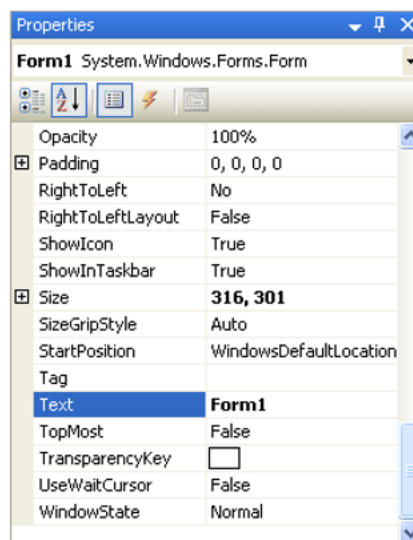
"Text" is a Property of Form1. Don't be confused by the word "Form1" next to the word "Text". It means that the current value of the Text property is set to the word "Form1". This is the default.

To change this to something of your own, do this:

- Click inside the area next to "Text", and delete the word "Form1" by hitting the backspace key on your keyboard
- When "Form1" has been deleted, type the words "My First Form"

SizeGripStyle	Auto
StartPosition	WindowsDefaultLocation
Tag	
Text	**My First Form**
TopMost	False
TransparencyKey	
UseWaitCursor	False
WindowState	Normal

- Click back on the form itself (the one with the labels and textboxes), or hit the return key on your keyboard.
- The words "My First Form" will appear at the top of the form.

When you've correctly changed the Text property, your Form will then look like this one:

Click on Label1 so that it has the sizing handles, and is therefore selected. The Text property of a Label does what you'd expect it to do: adds text to your label. We'll do that now:

- With label1 selected, click inside the area next to "Text", and delete the word "Label1" by hitting the backspace key on your keyboard
- Type in the words "First Name"
- Click back onto the grey form, or hit the return key on your keyboard

- Label1 has now changed its text caption to read "First Name"
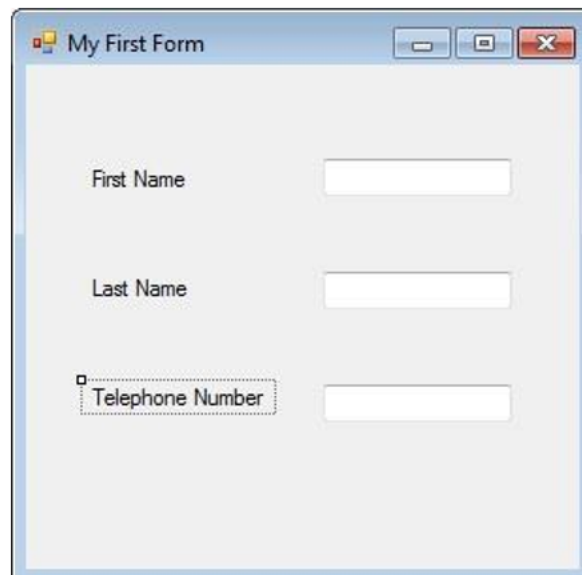- Your form should now look like this:

Now, change the Text property of the other two labels. Change them to these values:

        Label2: Last Name
   Label3: Telephone Number

When you're finished, your form should look like ours below:

Now click on the Start on the toolbar to run the program.

4. How to Save your VB .NET Projects

If you have a look in the top right of the Design Environment, you'll see the Solution Explorer. The Solution Explorer shows you all the files you have in your project (Notice that the name of your project is at the top of the tree - "My First Project").
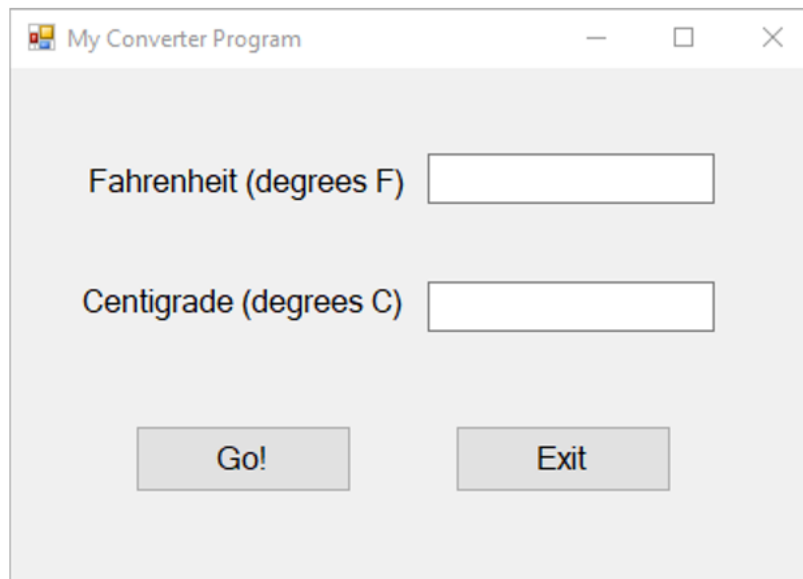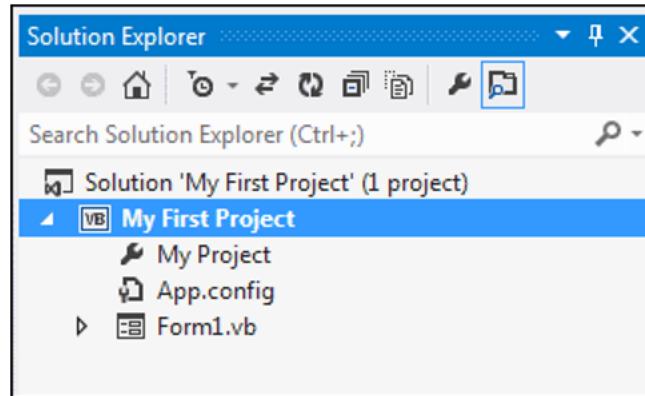

When you save your project, you are saving all these files. To save your work, click File > Save All, but you won't see a Save Project dialogue box in version 2012 - it just saves your files.

Exercise Program (Conversion from Fahrenheit to Celsius)

You have successfully created and run a VB program, so let's create a more useful program, which can covert a temperature from "degrees Fahrenheit" to "degrees Celsius". Let's start by rearranging our form.

1. Form Design

2.   Writing the Code

Now, it's time to write the code. To simplify this, change the "(Name)" property of the "Textbox1" text box to "txtF" and the "(Name)" property of the "Textbox2" text box to "txtC" for convenience in writing the code. Double-click the "Go!" button and write the code between "Private Sub Button1.Click()" and "End Sub."

Next, determine the equation required for the conversion from Fahrenheit to Celsius. As you know,

Celsius = (Fahrenheit - 32) * 5/9

The value in the text box "txtF" can be accessed as "txtF.Text", and similarly, "txtC" can be accessed as "txtC.Text". Here, "*.Text" is the extension code for the "Text" property of each text box (i.e., "txtC" and "txtF"). So, the code for the Go! Button should be

txtC.Text = (txtF.Text - 32) * 5/9

That is

Private Sub Button1_Click(…) Handles Button1.Click

txtC.Text = (txtF.Text – 32) * 5 / 9

End Sub

Type the code and run the program and make sure it works correctly. For instance, if you input "50" in the Fahrenheit box, and hit Convert, the Centigrade temperature should be "10". Similarly, put in 212 for Fahrenheit and get 100 for Centigrade, 32 for Fahrenheit and get 0 for Centigrade.