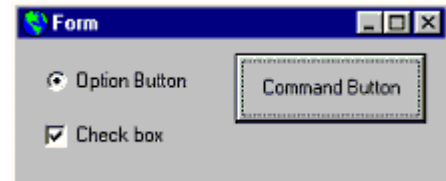


What Is Visual Basic?

Visual Basic is an *object oriented* programming language. It is used to write Windows programs that are GUI and event driven. It's *WHAT???*

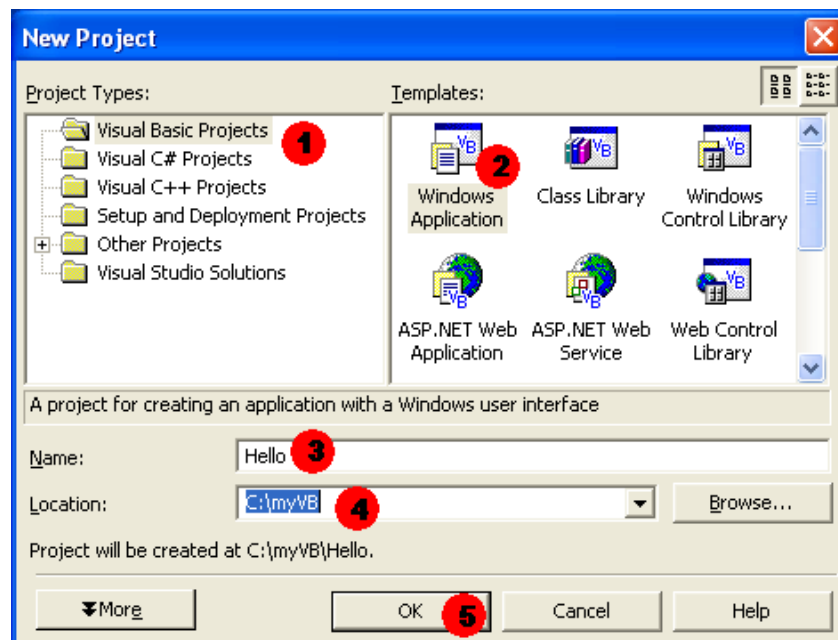
GUI: *Graphical User Interface* (pronounced gooey): the user can make choices with the mouse rather than having to type everything. He selects icons, option buttons, command buttons, and other *graphic* images, or pictures.



Object: An object combines both data (properties) and events (procedures). You will *build* your program from objects such as forms, command buttons, scroll bars, text boxes and timers. Each object (or *control*) has properties such as a name, width, color, and font. You write code for events that may happen to the control. Some of the events that can happen include click on it, double click it, or move the mouse over it, the user types in a text box, or a timer goes off. Different kinds of objects have different properties and events associated with them. For example, scroll bars have maximum and minimum properties; a timer has an interval property. Text boxes have properties such as font, font color, and font size. Most properties can be changed at both design time and at run time.

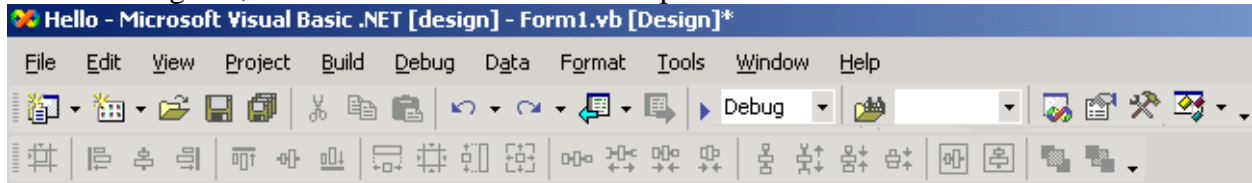
Event Driven: When you run an event driven program, it continuously checks to see if an event has occurred. When an event occurs, any code for that event is executed, then the cycle of checking for another event continues.

Your First Visual Basic Program





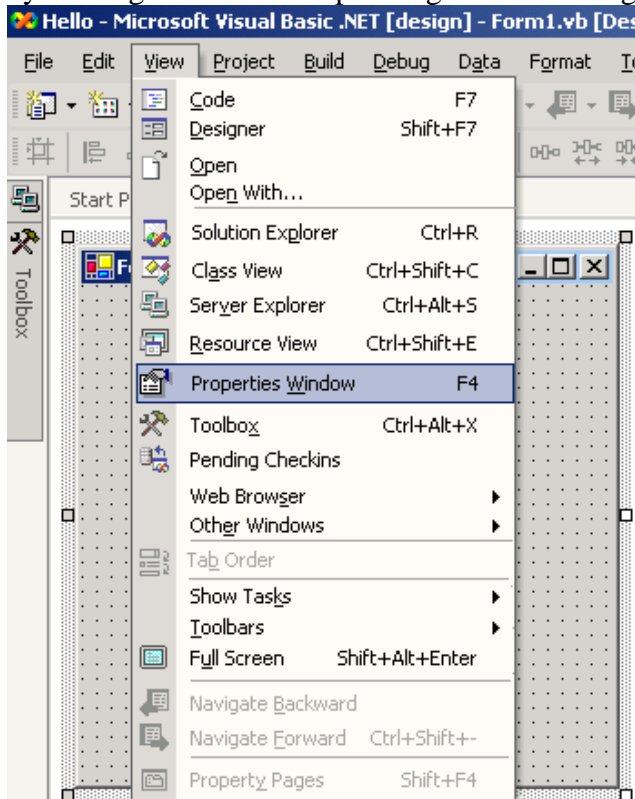
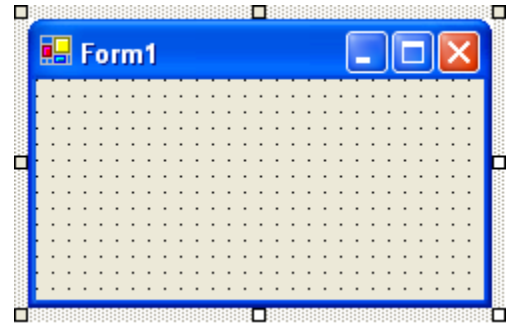
When you start Visual Studio, the window shown will appear. Make the choices as indicated by the red circles. In step 4, you should select a location to store all of your programs.

After clicking OK, the Visual Basic environment opens.



You will probably see the menu and toolbar along the top, and Form1 in the middle of the screen.

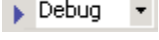
You may see other windows depending on how it has been set up on your computer. From the menu select View. View will let you open other windows. Notice the icons for the menu selections on the left, and the hot keys on the right. Look at the submenu for Properties window. Notice the icon:  on the left and the F4 on the right. Now look for the same icon in the upper right of the VB window. Open the properties window by clicking the menu choice now. Close the property window by clicking the X in the upper right corner of the property window – do NOT click the X in the top corner of the VB window, which would close VB! Now reopen the property window by holding down Alt and pressing F4. Close it again and reopen by clicking the  icon.



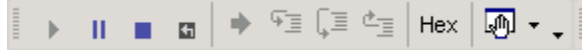
Experiment: Open and close a few windows and reopen them. Notice that some windows have tabs at the tab. Click each tab to see what is there. This is a good time to experiment, you haven't written any code yet and have nothing to lose.

Experiment: Move the mouse over the screen and pause at each icon. A “tool tip” appears to describe each icon. Explore the menu, look at the choices even if you do not know what they mean at this point.

RUN the Program

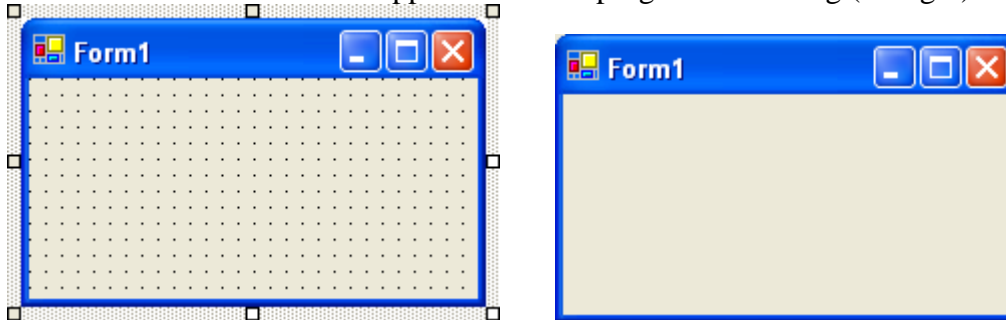
In the middle of the top tool bar, there is a blue arrow next to the debug window. , this is the **Run** button. Click the **Run** button to start the program. You can also select **Debug, Start** from the menu, or press **F5** on the keyboard.

When you run the program a third set of icons appears with Pause  and Stop  buttons:



The program doesn't have any code yet, but the window can be dragged, the size changed, and it can be minimized and maximized. When the program is minimized, the caption and icon appear on the task bar. Clicking an application on the task bar will restore it to its original size.

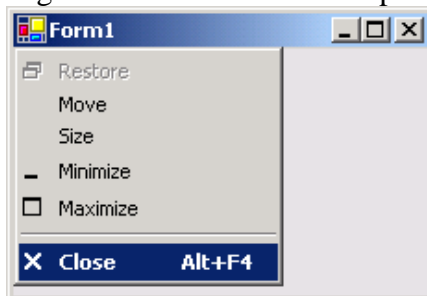
Note: When Visual Basic is in the design mode (on left), the form is marked off into a grid with little dots. These dots do not appear when the program is running (on right):





END

There are four ways to end execution, *try stopping the program each way:*

- Press **ALT+F4** (Hold down **ALT** and press the function key **F4**).
- Double-Click the icon in the top left corner of the running application to close it.
- Single-Click the icon in the top left corner to open the control menu, then select Close.




- Click the  in the top right corner.
- Click the Stop  button on the Visual Basic tool bar.

The First Program: "Hello World"

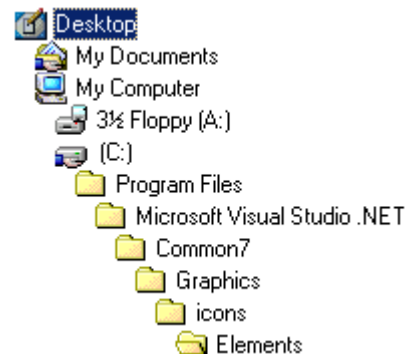
Changing Properties of The Form: You can change properties by clicking on the property and then giving it a new value. When you select a property the current value and method of changing the value are shown. Four methods of changing the value of a property are listed below:

Name of window
 Selects the control (there is only the form now).
 Highlighting shows the selected property. (BackColor).
 Current settings are shown for each property:
1. The color can be changed by selecting from a list. Select the down arrow, then pick a color. As soon as you make a selection the form will change color.
 A description of the selected property is shown at the bottom.

Select from a Dialog Box:  Scroll down to the Icon property. The Icon is the small picture in the top left corner of the form. Click the three dots (ellipsis) on the right to open a dialog box. A dialog box allows you to select from many choices. Dialog boxes include a color palette, the font dialog box, and the file dialog box. This method is used to select fonts, colors, icons, and pictures.

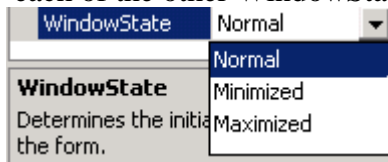
2. Change the Icon property to EARTH.ICO in the sub-directory shown in the illustration. The path may be different on your machine. If you cannot find the file, search for a file called earth.ico and make note of the path.

All icons that you are asked to select come with Visual Basic. If the icons are not on the hard drive, they can be found on the CD.



Select from a Drop Down List: If you click on the arrow you will see a drop-down list. A drop down list contains a limited number of choices.

3. Scroll down to **WindowState** and click the down arrow ▼ on the right. There are three choices for **WindowState**: Normal, Minimized, and Maximized. Select Maximized and run the program. Close the program using any of the methods above for ending the program. Try each of the other **WindowState** choices, ending with Normal.



Type the new value: When no selection method is shown, typing is the only way to give the property a new value. This method is used to change the name, text, text, height, width, and other properties that have numeric or text values.

4. Change the **Text** to **Hello World**: Click on **Text**, type **Hello World**, press Enter.
(The *Text* changes on the form when you press enter.)

When you run the program you will see the Icon, the Text and the BackColor that you have chosen.



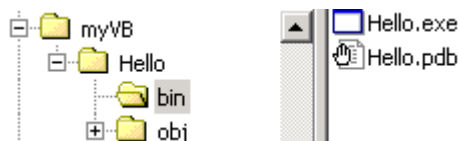
Saving

Save Project: Click , Save All, on the toolbar.

You should save each of your programs, even if the instructions don't specifically say to save.

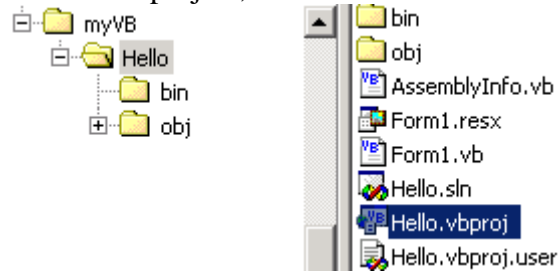
The Execute File

Find the directory where your program is stored. (If you are not sure, select File, Save Form1 as from the menu and make note of the path.) You will see 2 subdirectories under Hello: bin and obj. Double click on Hello.Exe in the Bin directory to run the program.



Opening an Existing Project

In the directory where you saved the project, There is a file called Hello.vbproj.



Double clicking this file will open Visual Studio with the Hello project already loaded. Note however, that Hello.vbproj is not sufficient by itself. All this file does is tell Visual Studio the files you want to use. If you need to move the program to a different computer, drag the **entire** Hello folder to a floppy.

When you start Visual Studio, the recent program are shown and can be selected at start up. Recent projects can also be opened by selecting File, Recent Projects from the menu.

If the project you want is not on the list of recent projects, you can also select it by selecting File, Open, Project from the menu then browsing to find the project.

After you open a project, you may need to double click on the form icon in the project window to see the form. You can also press Shift+F7, or from the menu select View, Designer.

Experiment:

1. Close Visual Basic and then reopen the Hello project. Close and try opening it other ways. Make sure you can reopen a project.
2. Close Visual Basic and start a new windows application. Change properties to match the running application shown below.

