

# Future Scope in Application Development of Visual Basic

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## ABSTRACT

Visual Basic for Applications is a computer programming language developed and owned by Microsoft. With VBA you can create macros to automate repetitive word- and data-processing functions. Applications are created with the help of Visual Basic and it is inbuilt with phone, memory devices and upcoming Artificial Intelligence

Programmers can create both simple and complex graphical user interface applications. Programming in visual basic is a combination of visually arranging components or control some aform, specifying attributes and actions for that component. BASIC means Beginners' All-purpose Symbolic Instruction Co-de. Visual Basic is a user-friendly programming language designed for beginners and it enables anyone to develop graphical user interface application easily.

which was replaced by VB .NET. However, Visual Basic for Applications, which is most commonly used today to automate Microsoft Office tasks, is highly compatible with the classic VB 6.

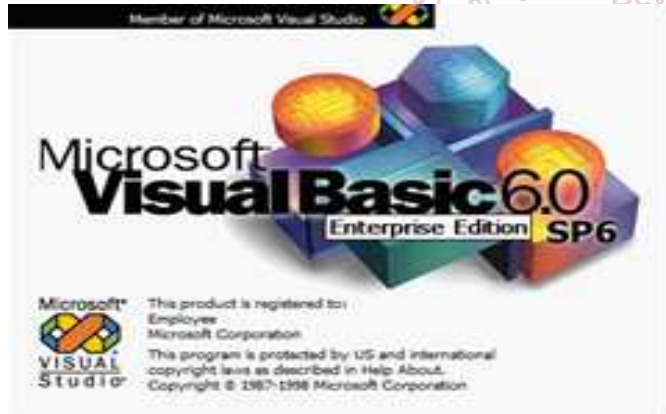
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## INTRODUCTION



### Types of languages:

- low level
- high level
- mid level

### The hierarchy of languages are presented below:

#### Visual Basic:

Visual basic is a programming language for developing sophisticated professional application for Microsoft windows. In this user can drag and reposition visual elements like windows, buttons and forms and create events for this element. It is an extension of basic language and functions using for visual controls. It is mainly designed to make software development and also to create advance programs

The rapid application development access to data base using data access objects, remote data objects and creation of active controls and objects.

### FEATURES IN VISUAL BASIC:

#### Graphical user interface:

In visual basics, the graphical user interface language is means a visual basics program will always shows something on the screen that the user can interact .the foremost step in building a program is to get graphical user interface items on the screen. This done to pull down menus that are available graphical objects.

#### Modularization:

It clearly indicates what comes into the module and what goes out makes a program easy to understand .It is consider as good programming practice to modularized. It is a single large collection of codes and good programmer on a screen at one time.

#### Object oriented

Object oriented programming is a concept where the programmer thinks of the program that interact with each other. all the codes associated with the object in one place and force good programming practice.

#### Debug

Visual basic offers two different option for coding debugging.

➤ **Debugging managed**

The debugging manage code individually debugs A and C++ application and visual basic application.

➤ **Run time debugger**

It helps to find and fix bugs in programs at run time

**Data Access Features**

By using this, we can use to create data base, scalable server side components for more data base. It also includes Microsoft SQL server and other level data base

**Macros IDE**

The macros, integrated development environment is mainly used to design and function to the visual studio IDE. It includes the code editor, tool windows, properties window and editor.

**Visual basic interface:**

**Start a new project**

A project is a collection of files that make up your application. There are various types of applications that we could create, however, we shall concentrate on creating Standard EXE programs (EXE means executable)

Next, click on the Standard EXE icon to go into the actual Visual Basic 6 programming environment.

Start a new Visual Basic 6 Standard EXE project, you will be presented with the Visual Basic 6 Integrated Development Environment (IDE).

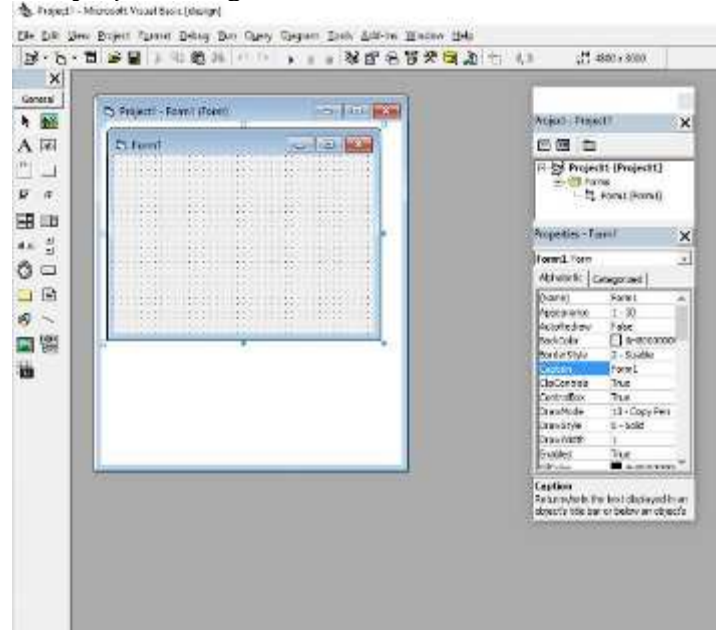
It consists of the toolbox, the form, the project explorer and the properties window.

The Form is the primary building block of a Visual Basic 6 application save the project by selecting **Save** Project from the File menu, assign a name to your project and save it in a certain folder.

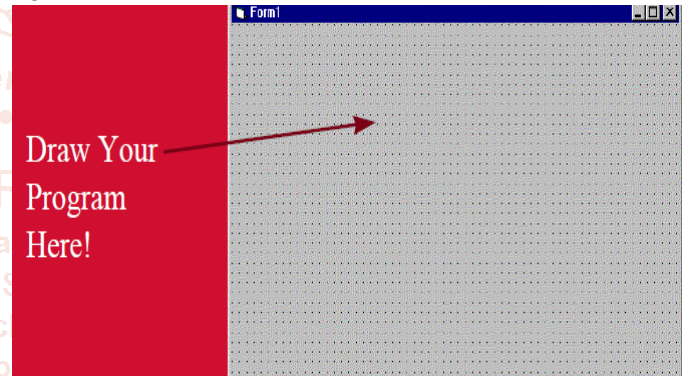
**Integrated development environment:**



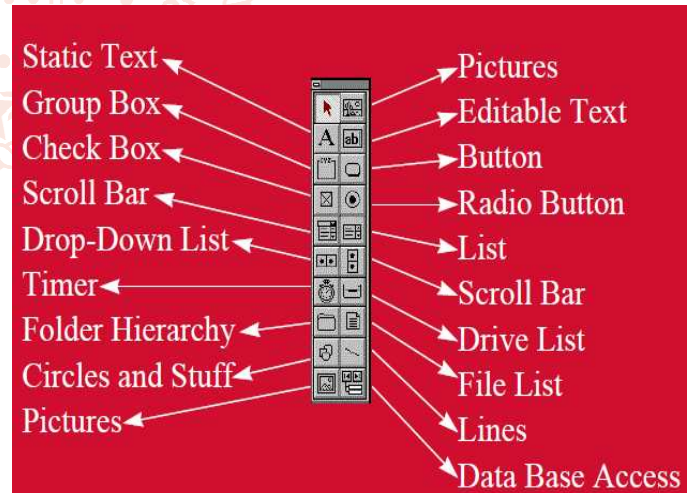
**New project dialog box:**



**Form:**



**Tools or Controls:**



**The Text Box:**

The text box is the standard control for accepting input from the user as well as to display the output. It can handle string (text) and numeric data but not images or pictures.

**The Label:**

The label is a very useful control for Visual Basic, as it is not only used to provide instructions and guides to the users, it can also be used to display outputs. One of its most important properties is **Caption**. Using the syntax **Label.Caption**, it can display text and numeric data.

**The Command Button:**

The command button is one of the most important controls as it is used to execute commands. It displays an illusion that the button is pressed when the user click on it. The most common event associated with the command button is the Click event.

**The syntax for the procedure is**

```
Private Sub Command1_Click ()
Statements
End Sub
```

**The Picture Box:**

The Picture Box is one of the controls that is used to handle graphics. You can also load the picture at runtime using the **Load Picture** method.

**The Image Control:**

The Image Control is another control that handles images and pictures. It functions almost identically to the picture Box.

**The List Box:**

The function of the List Box is to present a list of items where the user can click and select the items from the list. In order to add items to the list, we can use the **Add Item method**.

**The Combo Box:**

The function of the Combo Box is also to present a list of items where the user can click and select the items from the list.

**The Check Box:**

The Check Box control lets the user selects or unselects an option. When the Check Box is checked, its value is set to 1 and when it is unchecked, the value is set to 0.

**The Option Button:**

The Option Button control also lets the user selects one of the choices. However, two or more Option buttons must work together because as one of the option buttons is selected, the other Option button will be unselected. In fact, only one Option Box can be selected at one time. When an option box is selected, its value is set to "True" and when it is unselected; its value is set to "False".

**The Shape Control:**

In the following example, the shape control is placed in the form together with six Option Buttons. To determine the shape of the shape control, we use the shape property.

**The Drive List Box:**

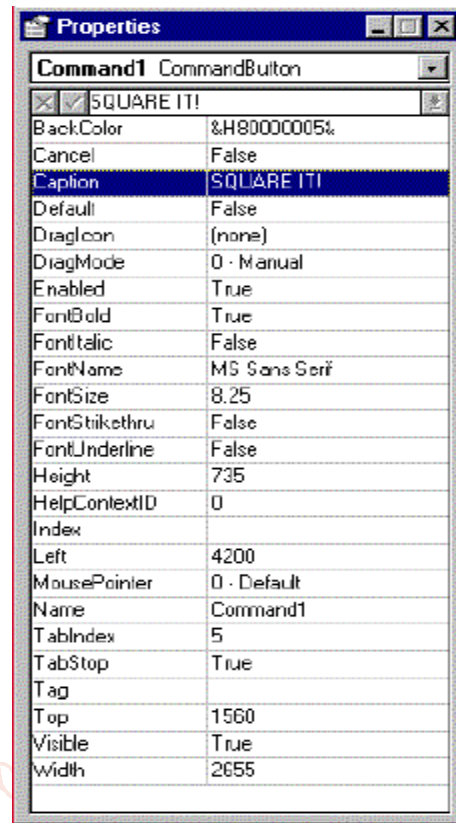
The Drive List Box is for displaying a list of drives available in your computer.

**The Dir List Box:**

The Dir List Box means the Directory List Box. It is for displaying a list of directories or folders in a selected drive.

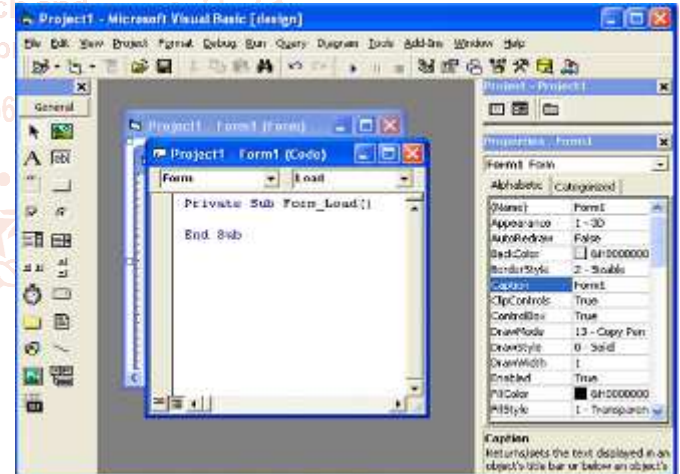
**Properties window:**

To design the user interface, you can add controls to the form and customize their properties in the properties window at design time or at runtime.



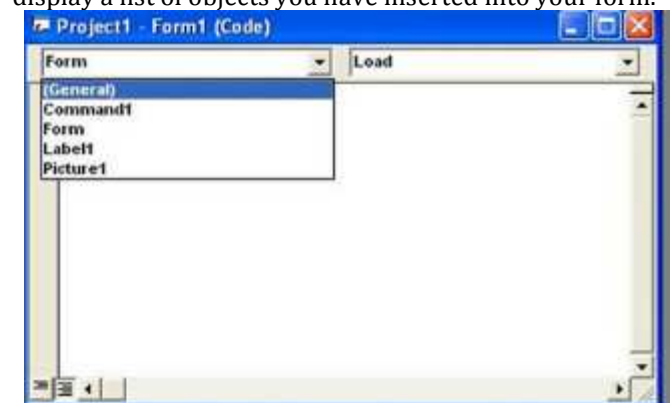
The top of the source code window consists of a list of objects and their associated events or procedures. In the source code window, the object displayed is **Form1** and the associated procedure is **Load**.

**Source code window:**



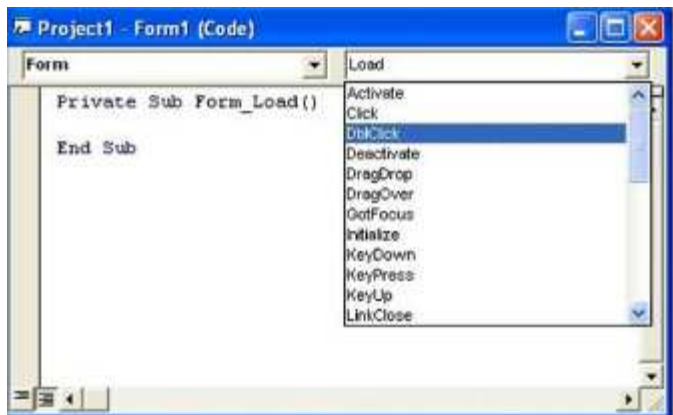
**List of objects:**

When you click on the object box, the drop-down list will display a list of objects you have inserted into your form.



**List of procedures:**

Similarly, when you click on the procedure box, a list of procedures associated with the object will be displayed. Some of the procedures associated with the object Form1 are Activate, Click, DblClick (which means Double-Click) , DragDrop, keyPress and more. Each object has its own set of procedures. You can always select an object and write codes for any of its procedure in order to perform certain tasks.



**Creating Sub Procedure:0**

A sub procedure (also call subroutine) is a procedure that is called from the main procedure to perform a specific task. It is different from function in the sense that it does not return a value as a function does

**The structure of a sub procedure is as follows:**

Sub Procedure Name (arguments)  
Statements  
End Sub

**Visual Basic Data Types:**

Visual Basic classifies the information mentioned above into two major data types, they are the numeric data types and the non-numeric data types.

**Numeric Data Types:**

Numeric data types are types of data that consist of numbers that can be computed mathematically with standard operators. Examples of numeric data types are height, weight, share values, the price of goods, monthly bills, fees and others.

**Non-numeric Data Types:**

Nonnumeric data types are data that cannot be manipulated mathematically. Non-numeric data comprises string data types, date data types, boolean data types that store only two values (true or false), object data type and Variant data type.

**Suffixes for Literals:**

Literals are values that you assign to data. In some cases, we need to add a suffix behind a literal so that VB can handle the calculation more accurately.

**Declaring Variables Explicitly:**

To declare the variables before using them by assigning names and data types. They are normally declared in the general section of the codes' windows using the **Dim** statement.

The **syntax** is as follows:

Dim VariableName As DataType

**Assigning Values to Variables:**

After declaring various variables using the Dim statements, we can assign values to those variables. The syntax of an assignment is

**Variable=Expression**

**Constants:**

Constants are different from variables in the sense that their values do not change during the running of the program.

**Declaring a Constant:**

The syntax to declare a constant is  
Constant Name As Data Type = Value

**How Visual Basic is used:**

The structure of VB is designed to allow programmers to use the environment to write executable files (exe files). Also, using VB, developers can create programs that can be utilized as a front end to databases. VB tools can help programmers develop applications or complete software while still allowing them to modify and revise their work accordingly.

The most popular type of Visual Basic in use today is VBA. VBA is a version of Visual Basic that can be used to program Microsoft Office apps, such as Excel and PowerPoint. Computer professionals use VBA and macros in more complicated ways. Programmers will often write macros that can replicate large portions of code or define specific languages.

Businesses and organizations can use VBA to customize Excel for their unique purposes, such as pulling certain statistics or information from a spreadsheet.

VBA to be used on an enterprise-specific application.

**Benefits of Visual Basic:**

- The major reason for its popularity is that it allows programmers to create Windows applications quickly and easily.
- The BASIC programming language, which VB is derived from, is simple and easy to work with, especially when writing exe files.
- VB becomes extremely beneficial when used with Microsoft's COM interface.
- provides not only a programming language, but an integrated development environment (IDE) that has been written and optimized to best support RAD.
- allows programmers to easily build GUIs and connect them to functions within the application.
- the Visual Basic IDE provides views of the management of the program structure that are easy to understand.
- VB enables the rapid development of Windows based applications while also assisting in the access of databases by using ActiveX data objects (ADO) while allowing programmers to use ActiveX control and various objects.

**Sample coding:**

```
Private Sub Form_Load()  
    'Execute a simple message box that says "Hello, World!"  
    MsgBox "Hello, World!"  
End Sub  
Option Explicit  
Dim Count As Integer  
Private Sub Form_Load()  
    Count = 0  
    Timer1.Interval = 1000 'units of milliseconds  
End Sub  
Private Sub Timer1_Timer()  
    Count = Count + 1  
    Label1.Caption = Count  
End Sub
```

**Applications in Visual Basic**

Visual Basic, is a First Class Citizen in Visual Studio. All features that C# has, Visual Basic .Net has. In fact, there were

some features that VB .Net had that C# didn't have until Visual Studio 2010

Feel free to program in Visual Basic .Net all you want. It will be fully supported for years and years to come.

Visual Basic .Net isn't going anywhere. Yes, C# may get all the love, but there are countless millions of lines of code written in VB .Net that MS is not about to ignore.

The Microsoft Visual Basic team still maintains compatibility for Visual Basic 6.0 applications on Windows Vista, Windows Server 2008 including R2, Windows 7, Windows 8, Windows 8.1, Windows Server 2012, Windows 10, Windows Server 2016, and Windows Server 2019 through its "It Just Works" program.<sup>[8]</sup> In 2014, some software developers still preferred Visual Basic 6.0 over its successor, Visual Basic .NET. In 2014 some developers lobbied for a new version of the VB6 programming environment.

**Conclusion:**

Computer Simulation is a useful research tool that opens up new techniques for solving numerical iteration problems. It saves time and reduces errors to its minimum level as compare with analytical approach which have limiting point. Solving numerical iterations using Visual Basic is more convenient to use in the simulation of numerical iterations and is less prone to errors.

