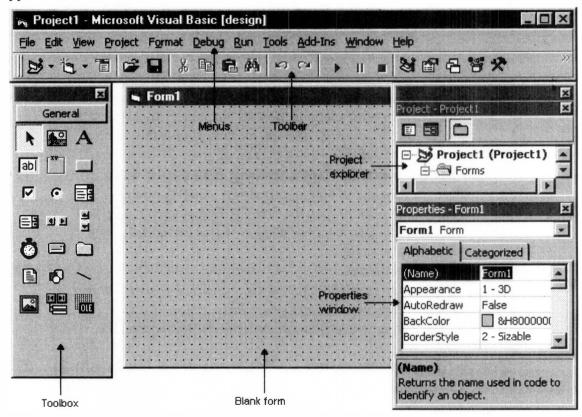
# VISUAL BASIC® ELEMENTS

Visual Basic is an **event driven programming system**, based on the use of **objects**, which enables you to create applications for Windows. As a programmer you use the available tools to create objects which make up the **graphical user interface** (GUI). You make decisions about the appearance of these objects (such as colour, size and caption) and you write **code** which reacts to the way a user interacts with your interface (such as the clicking of a mouse button or the pressing of a key).

The following are the main elements used in the development of a Visual Basic application:



## **Projects**

A **project** is the collection of files you use to build an application.

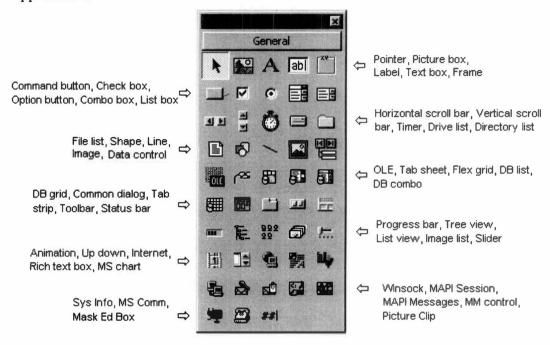
#### **Forms**

A form includes the **controls** and **code** associated with that form. You create forms to serve as the **interface** of your application. Each form is a **window** that displays controls or graphics.

### **Controls**

Controls are tools such as boxes, buttons and labels you put on a form to get input or to display output. They might also add visual appeal to your forms. You select controls from the toolbox and place them on a form. Once on a form, controls can be resized and other initial characteristics (properties) set.

The next illustration identifies the standard and professional controls available from the toolbox. You will find this a useful reference as you start to develop your own applications.



As well as the toolbox you will make extensive use of the **menus** and **toolbar**.

## **Properties**

The **properties** of **forms** and **controls** are set using the properties window. Properties specify the **initial values** for such characteristics as size, name, colour and position.



### Code

To make an application respond to user actions or events, you write **code** for your forms and controls (in the code window). Language features include **branching**, **loops**, **data types**, numeric and string **functions**. Visual Basic provides automatic **syntax** checking. So when you are writing code any syntax errors you may make are found and identified for you.

```
Clixpert - Form11 (Code)
cmdOK
                             Click
   Private Sub cmdOK Click()
       Dim I As Integer, J As Integer, K As Integer,
       Dim Ch As String, FStr As String, ChPred As Sal
       FStr = txtFormula.Text
       L = Len(FStr)
       FormErr = 0
       Ops = "+-\times\div^{\wedge}"
       OpsNM = "+×÷^"
       Nums = ".0123456789"
       LegalChar = Nums + Ops + "()"
       If FStr <> "" Then
            ' Check variable brackets
           If lstVariables.ListCount > 0 Then
                LookLeft = True
```

#### Menus

Menus are used in preference to crowding forms with a lot of command buttons. The **menu editor** allows you to customise your own menus.

