Data Control

The Data Control of VB allows us to access and manipulate Databases

It can also be used to create app. that give us a High Degree of control over Data

The Data control enables us to move from record to record and to display and manipulate Data from the records in bound controls.

It helps to access the Database without the use of the programming

This control Displays a set of arrow buttons the user can manipulate to move through a database, and the records from that Database are displayed in bound controls

Bound controls

Controls that can work with the Data controls to access Data are Said to be data-Aware (bound)

The process of attaching a Data-Aware control to a Data Control is called binding.

The bound control is associated with a particular field in the underlying table.

✓ A Data Bound control can be bound to data control through its Data Source & Data Field properties.

List of some Bound controls:-

- ✓ Label (for non-Editable Data)
- ✓ Textbox (For Editable Data)
- ✓ CheckBox (For True/False Data)
- ✓ Image (For image Data)
- ✓ Picture Box (For Bitmaps)

V.B also provides some special controls that are designed to be used as Bound-controls:-

- ✓ DB List
- ✓ DB Combo
- ✓ FlexGrid
- ✓ MS Flex Grid

Some other Bound-controls that work with the ADO control only, is:-

- ✓ DataList
- ✓ Data Combo
- ✓ Data Grid.

Using a Data Control:-

By setting the properties of the Data control. ~~we~~ Attach the Data control to a Speific Database and the table in it.

The Data Control itself Does not display data. It only conducts the flow of information back and forth between ~~the~~ our app. and the data base.
~~out~~ Bound Controls are used to Display Data on the form.

Data Control Properties:-

1) DataBase Name:- speifies the Database to be used.
2) Record Source :- Sets the underlying table.
3) Connect :- Sets a value that provide information about the Source Of a Data Base.
4) RecordSet type:- Sets a value indicating the type of Record Set Object we want ~~that~~ the Data Control ~~is~~ to Create. It has following 3 types of Recordsets:-

A) Dynaset-Type - A Dyna-set type of Recordset (Default) (updatable)
B) Table-Type:- A Table type of Recordset
C) Snapshot - Type - A Snapshot type of Record Set.

~~Data Control Method:-~~

5) **EOF:-** (End of File) Property Returns a True/False Value that indicates Whether the Current Record position is after the last Record in a RecordSet Type.

6) BOF:- (Beginning of File) Property returns a True/False value that indicates whether the current Record position is before the first Record in a RecordSet Type.

~~7)~~ Data Control Method:-

1) Move:- The simplest method is the navigation/Move Method, which corresponds to the actions of the four buttons on the control, they are:-

Move First - Repositions the control to the First Record

Move last - Repositions the control to the last Record.

Move Previous - Repositions the Control to the previous Record

Move Next - Repositions the control to the Next Record

Opening the DataBase through Data control:-

Data Control is a link b/w info. in Database and Bound control is used to Display the info.

To Connect a Data Control to a Database, Perform the following Steps:-

1) Set Data control's Database Name property to an existing .mdb database.

2) Set the Record Source Property of Data Control to one of the table from Record Set.

3) Set Connect to Source of an open Database

Accessing Database through Data-Bound controls:-

1) Draw a Bound Control, E.g Text Box - Text 1 on the form

2) Set the Data Source Property to Data1 (name of the Data Control)

3) Set the Data Field Property to one of the field in Recordset.

Disadv :- It is not designed to access remote Database

Data Access objects (DAO):-

- DAO was the first access method.
- VB supports DAO with Microsoft Jet Data Base Engine
- It access and Manipulate Data in local or remote Database, and to manage DataBase, their Objects and Structure them.
- This Jet Engine supports all kinds of Data format in the fields- tent, numbers, integers, long, singles, 4 Doubles, Dates, Binary values, OLE objects, currency values, Boolean values, and Even Memo objects
- To Support Jet Data Base Engine, DAO add the data control. 5

Remote Data object (RDO):-

VB Support RDO to access Data base through ODBC (open Data Base Connectivity)

Set up ODBC connections to databases using the ODBC items in the Windows control Panel, and then use one of the those connections with the RDO objects.

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To work with RDO, firstly register the ODBC.

ODBC

It is a Microsoft specific technology that provide ODBC drivers. These ODBC drivers will be installed by the respective Microsoft Windows operatin System.

ODBC defines a Standard method for communication b/w the application and the DBMS. This is Done by API (App. Programming Interface). An API is a Set of Functions

The ODBC drivers works as a translator which accepts the Command from the application and converts it to a format understoo by the target DBMS.

The ODBC driver also receives the result of the command execution from the DBMS and passes it back to the application.

RDO is useful when accessing data from relational Databases such as MSSQL server and Oracle.
The limitation to RDO is that it does not access desktop Databases Efficiently.

Registering an ODBC data Source

1) Go to Control Panel → Administrative tools → ODBC

2) This opens the ODBC data source administratoo DB Then Click the MS-Access and click on Add Button.

3) This opens the "Create New Data Source" Dialog Box, with the list of ODBC drivers then add MS access driver (~~*~~.mdb) and set finish.

4) This agains opens the ODBC Microsoft Access Set up Dialog Box, now use the Select button to Select the Database file, (with .mdb extenstion, book.mdb) and click OK.
rom
ne Select Database Dialog Box

5) This agains open the the ODBG Microsoft Access Set up dialog box, ~~typ~~ Enter the Data Source name and Click OK.

6) This ~~cp~~ creates a new ODBC connection and that connection appears in the ODBG Data Source Adminstrater

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7) click on the OK button to close the ODBC Data Source Administrator.

Remote Data Control :-

RDC is designed to create a connection to a database and display data in bound - controls.

RDC is used to access ODBC data sources.

After Registering add a RDC to the form and opening the Database with the RDC.

(1) Select the Project | components menu item.

(2) click the control tab in the component Dialog Box that opens.

(3) Select the Microsoft Remote Data Control 6.0 in the controls list Box.

(4) click OK and close the component Dialog Box.

(5) This adds the RDC tool to the toolbox. Draw ~~you~~ this control on your form as you want it

6. Connect the RDC ~~with~~ to ~~the~~ an ODBC Data Source with the Data Source property.

Set the RDC's Data Source proper
to an existing . mdb database.

Create a Result Set to work with RDC by suppling an SQL Statement ~~in the~~ through SQL Property.

Connecting a Remote Data Control to a Bound control:-

Accessing the Database through RDC.

① Set the Data Source property of the Bound Control to the name of the remote Data control (rdodc

② Set the data field property to one of the field in table.

Result Set

Result Set, is a logical set of records from one or more tables, based on the content of Remote Data Control's SQL Property.

Result set can be refer as:-

Rdodc1. ResultSet

↓

name of the Remote Data Control.

Methods of Navigating the ResultSet

1. Move First :- Moves from the current Record to First Record

   Rdodc1. Resultset. Move First

2. Move Last :- Moves from the current Record to Last Record

   Rdodc1 - Resultset - Movelast

3. Move Next - Moves from the current Record to the Next Record, if Possible

   Rdodc. 1. Resultset - Move Next

4. Move Previous - Moves from current Record to Previous Record, if Possible.

   Rdodc1. Resultset - Move Previous.

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ActiveX Data objects (ADO)

- ADO access data from OLEDB Providers.
- ADO enables accessing data from relational and non-relational Databases.
- It also allows to access other Data Sources i.e, e-mail, file systems Project Management tools and spreadsheets.
- It provides consistent interfaces for worping with a wide variety of Data sources, tentfiles to ODBC relational Databases to complen group of Databases.

- ADO is a set of objects, Propert events and Methods, Here are the ADOS:-

① connection:- Access from app. to a Data Source is through a connection object, the Envioronment necessary for exchanging Data.

It is used to speify a particular Data PROVIDER and any parameters.

(2) Command :-
~~It~~ A Command issued across an established Connection, which manipulates the Data Source.

(3) Parameter :- Commands require Parameter that can be Set before issuing command.

(4) RecordSet :- If the command is in a Query form that returns Data as a rows of information in a table, then those rows are placed in a local storage in a Recordset object.

ies, (5) Field :- A ~~Consist~~ row of a recordset consist of one or more fields, which are stored in Field Objects

(6) Error :- ADO Supports the Error object to hold the resulting Errors.

Error can occur when your program is not able to establish a Connection, Execute a Command, or Perform an operation.

(7) Collection :- ADO Provides Collections, an object that contains other Objects of a Particular Type.

ADO Provides 4 types of collections:-

(A) The connection object has the Errors collection.

(B) The command object has the Parameters collection.

(C) The Recordset object has the Fields collection.

(D) The connection, command, Recordset and Field objects all have a Properties collection, which contains all the property objects that apply to them.

(8) Events :- ADO uses the concepts of Events, There are 2 types of Events :-

(A) connection Events :- Issued when transaction occurs, when commands are Executed, and when connection starts or End

(B) Recordset Events :- Events used to report the progress of Data changes.

# ADO also includes Remote Data services (RDS) ~~With~~ which helps to move Data from a server to a client application or Web page, manipulate the Data on the client, and

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return updates to the Server in one round-trip.

✓ An ADO transaction marks the beginning and end of a series of Data operations that are executed across a connection.

- ADO makes sure that ~~the~~ changes to a Data Source resulting from operations in a transaction either all occur successfully or not at all.

ADO Data control:-

ADO is designed to create a connection to a data base using Microsoft ActiveX Data objects (ADO).

Opening ~~Ar~~ Database with An ADO data control:-

1. Select the Project / components Menu item.

2. Click the Microsoft ADO Data Control 6.0 (OLE DB) from the component Dialog Box.

3. Click OK ~~to~~ close the component Dialog Box

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4. This adds the ADO Data Control tool to the toolbox, draw this control as you want on your form.

5. Connection String property of the ADO Data control is used to create a connection to a data source.

Click on the connection string property, This opens the Property page Dialog Box which Displays the following 3 options :-

→ Use Data link File :-
This specifies a custom connection String that connects to a Data Source

→ Use ODBC Data Source Name :-
This option allow us to use a System - Defined Data Source name (DSN) for the connection String.

→ Use Connection String to connect to the Data Source click on Build, It opens Data link Property page. Add Microsoft Jet 4.0 OLE Engine. click on OK.

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This again open the property page with full connection String

6. Set the Record Source Property to one table.

Connecting an ADo Data control to a Bound control:-

(1) Set the Data source property of the Bound Control to the name of the ADo Data Control.

(2) Set the Data field property to one of the field in table.

Recordsets :-

Record Sets is a collection of records that are retrieved from an object as determined by the Record source Property.

Record set represents the entire record in a table or the records that results from a runningaquery

The Record Set object is used to access records returned from a query.

At any given time, a Recordset object Points to a single Record called, the current record in the

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Set of records returned from a query.

The RecordSet has many useful property and methods of its own. The RecordSet are mainly of Three types :-

(1) Table - Type (Dynamic) :-
It represents the one entire table which is usually updatable unless the file is locked or is opened for read only.

Default

(2) Dynaset - Type (Dynamic) :-
It is a temporary Set of Data taken from multiple Tables in the underlying file.
A DynaSet may be a query that Was defined in an Access Database, a Single table, a Subset of a table, or the result of Joining Multiple Table.

(It allows Data Field & records)

It is updatable if the file is not locked or opened for read only.

The Data in a Dynaset are "live" - that is any changes made to the data as the project is execution will appear on the RecordSet

(3) Snap-Shop (Static):-
It allows Data from multiple Table but it is not updatable ~~or~~ and also not live.

Unit - II

Introduction to Variables:-

Memory-location
Variables are the programming construct that hold data that can be changed during execution-time having name, scope, life-Time and Data - Type.

→ variables are used to temporarily store values during the execution of an application.

Declaring a Variable

A Variable is declared by using Dim statement as:-

Dim varname [As type]

Dim, As are the keywords.
Varname is the name of the Variable.
type is the Data type of the variable.

```
Dim N1 as integer
Dim Name as String
Dim Age as Integer,
Dim Salary as Double
Dim DoB as Date,
```

Rules for Variable Names:-

① Variable name can be upto 255 Characters long.

② It may consist of letters, Digits and underscores.

③ They cannot contain any spaces or periods.

④ They may not be reserved words.

String:-

The String Date type is usually used as a variable length type of variable. It contain near 2 billion character. Strings are used when the tent is involved:-

Syntax:-

```
Dim identifier as String
```

String Constants may contain letters, Digits, & Special characters (~~$##, @ % &~~

($ # @ % &*),

It is enclosed in Quatition

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String function :-

→ VB provides the left, Right, and Mid functions that return the speified section of a string.

Control Arrays.

- Control Array is a group Of Controls that all have the Same name and same event Procedure. and referred to by individual inden values.

- All control in the array Must be in the same.

- Adding controls with control arrays uses fewer resources than adding multiple control of same type at design time.

- Control Array is created at the design time, by the following one of these three Methods:-

1> create 3 textbox controls of the Same class and assigns them an identical Name. At this time, VB displays the following message:-

you already have a control named 'name'. Do you want to Create a control array?

click on the Yes Button.

It Provide naming of each individual Control as txtBoxes(0), txt Boxes (1), txtBoxes(2)

2 Select a control on the form, Press Ctrl + C to copy it on the clipboard, and then Press Ctrl + V to Paste a new instance of the control, which has the same Name Property as the original one. VB displays the Msg Box.

3. Create a control and then assigns a numeric, non-negative value to its Index Property; It creates a control array with Just One Element.

- Control Array is created at the Run time By using Load or Unload Statements.

If txt Boxes(0) is created at Design time, then create a new text Box control as:-

Load txtBoxes(1)

Resize & Move it as:-

txtBoxes(1). Move 1200, 2000, 800, 350

Make it visible by using visible property as:-

txt Boxes(1). Visible = True.

Remove the controls from a control array using the Unload command :-

unload txtBones (1).

Adv :- ① controls that belong to the same control array share the same set of event procedures which enhances reduction of code ~~to~~ a large Extent.

② Dynamically add new elements to a control Array at run time.

③ Elements of control arrays consume fewer resources than regular controls.

Checked

Tree View :- helps in presenting the hierarchical information to the user in an interactive format

1) It displays the data in a Hierarchical Way.

2) Example - windows Explorer.

3) It displays the drives, directories, Sub-directories & files in the form of hierarchy.

4) This Control is also be used to display the data from a database.

5) Each item on the Tree view is ~~like~~ a Node (like a directory) object. A Node object can have child nodes. A child node~~s~~ can be a simple node or it can have other child nodes (like a sub-directory).

6) The tree view ~~He th~~ Control Provides methods to expand & collapse nodes objects to display or hide all child nodes.

7) At the topmost Level are root nodes, each root node can have any number of child nodes. Each Node in a tree is a actually a Programmable Node object, which belongs to the Nodes

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Collection.

- It has 3 events also:-

→ Collapse
→ Expand
→ Node Click

- One can Navigate through a tree in code by retrieving a reference to node objects using Root, Parent, child, First sibling, Next, Previous & last sibling Properties.

Adding a Tree view to a Form

1. Select the Project | Components menu item

2. click the controls tab in the Component Dialog Box that opens.

3. Select the Windows Common Controls item.

4. Click on OK to close the Component Dialog Box.

5. The Preceding steps add the Tab strip/Tree view control | list view control tool To the tool box. Draw

the tree view in the form as you want it.

6. Set the tree view Properties, ~~to~~ and add the code u want.

Adding Nodes to a Tree view:-

```
Private Sub Form-Load()
    Dim Node1 As Node
    Set Node1 = Treeview1.Nodes.Add
```

Adding Sub Nodes to a Tree view:-

A Tree view control is made up of nodes. Each node is place relative to another node. The new node will also have a relationship with the 'relative' Node. It canbe a child node to another node, a Parent or a sibling to node node.

Syntax:-

object. Add (relative, relationship, key, tent, image, selected image)

↳ The name of the treeview control.

relative - The inden number or key of a Pre enisting Node object

relationship- optional, specifies the relative placement of the New object

~~Dor~~

Key - A Unique String that Can be used to retrieve the node with the Item Method.

Tent - The name of the node object that will be Displayed in the tree View control.

```
Private Sub form-Load()
Dim Node1 as Node
Set Node 1 = Treeview1. Nodes. Add (, , "c", "customer",
Set Node1 = TreeView1. Nodes. Add
("c", tvWChild, "child 1", "customer - code")

Set Node 1 = Tree view1 . Nodes. Add
("c", tvWChild, "Child2", "customer - Name")
    End sub
```

Relationship

Constant	Value	Description
tvWlast	1	The Node is placed after all other nodes at the same Level of the node named in relative
tvWNent	2	The Node is placed after ~~the~~ the node named in Relative
tvWPrevious	3	The node is place before the node named in Relative
tvW child	4	The Node becomes a child node of the node named in

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Tab Strip.

1 It Presents the user with a row (or rows) of tabs that acts like the dividers in a note-book or the labels on a group of file folders.

2. It consist of one or more tab objects in a Tabs collection.

3. It is used to compact the data so as to consume much less screen.

4. By clicking a tab strip, a whole new panel of Data, like opening a file or folder appears.

5. The most common use of tab strips is to organize Dialog boxes & to pack them into a small space.

Steps.

Inserting Tabs into a Tab-Strip Control:-

At the Design time, use the Tab Strip's property pages, Just right-click the tab strip, select properties from the menu that appears, and click the Tabs tab.

At Runtime

use the Add method to add new tabs to the tab Strip's Tabs property.

```
Private Sub Form- Load()
  Dim Tab2, Tab3 As Comctlib-Tab
    Set Tab 2= TabStrip1. Tabs. Add()
   Set Tab3 = TabStrip2- Tabs. Add()
```

6 Setting Tab captions

```
      Tab2. caption = "Tab2"
```

6 Setting Tab Images.

```
      Tab1. Image = 1

      End Sub
```

list views

- The list view control Displays lists of items.
- The List view is Displaying a list of files.
- Each item in a list view control is itself a list Item object and can have both text and an image associated with it.

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List view Can Display Data in 4 Diff. view Modes:-

1) Icon Mode - Can be manipulated with the Mouse, allowing the user to drag and drop and rearrange objects.

2) Small Icon Mode - Allows More List Item objects to be viewed.

3) List Mode - Presents a Sorted view of the List Item objects

4) Report Mode - Presents a sorted view, with sub-items, allowing extra info. to be Displayed.

- 2 image List controls are associated with a List view :- one to hold the icons for the Icon view Mode and one to hold Small icons for the Other three Modes.

Steps.

Adding Items to a List view
Private Sub Form_load()
Dim List Item1 As List Item
Set List Item1 = ListView1. List Items. Add(

' Adding Icons & Small icons to a List view

ListItem1. Tent = "Item1"
ListItem1. Icon = 1
ListItem1. SmallIcon = 1

Selecting the view Type in List Views
IVW Icons = 0
IVW SmallIcon - 1
IVW List - 2
IVW Reboot 3

ActiveX control are meant to be used as a Building block in the application Development

Active X control:-

It is an app with a visible user Interface, as well as an invisible programming interface on the user control object.

The visible interface is what the developer sees when placing an instance of the control on the Form, which is also what the user sees on the form when the project is placed in runtime Mode.

The developer can manipulate the control through the properties exposed by the control (at the design time) and through its methods (at the run time)

An active X control is a COM object with the following features:-

1) The ability to recognise events.
2) Allows associating code with these events.
3) Executes code written by the user for the Different Events.

- The ActiveX control also has methods and properties. When an Active X is being created all that is built-in to it is the ability to recognise events.

The UI controls provided by VB are ActiveX controls.

Active X control is created by placing multiple UI controls in a user control. The user control forms the base on which the ActiveX is built.

We can set the properties of the individual controls, add code etc. to create an Active X that we want.

This ActiveX created by the user is stored in a plain tent file that contains the code and the propert of the user control and the constituent controls. These files are saved with a '.ctl' entension.

If a user control or constituent controls use graphical elements such as bitmaps, which can not be stored as tent, then VB stores those elements in a ".ctx" file

These .ctl, .ctx files lompletely delsine ~~the~~ an Active X controls's appearance and properties, methods and events.

When an active X control project is compiled, the control class is compiled with '.ocx' extension.

Each .ctl file defines a separate control class.

A '.ocx' file contains all the controls of the project.

VB creates one '.ocx' file for all the controls in a single project.

Active X control interface wizard

- It is used to add properties, methods and events to the control.

ies

It guide through the steps of designing the skeleton of a custom ActiveX control.

- It will not add the code to align or even display the caption, but it will create a functional control with most of the standard members of a typical Active X control.

To Create a Property using the ActiveX Control Interface we need to:-

1) Add the wizard to the list of Add-Ins using the Add-In Manager. Select the VB6 ActiveX control Interface wizard from the Add-In Manager Dialog Box. The loaded / Unloaded option in the load Behaviour checkbox is selection.

2) To start the wizard select it from the Add-Ins Menu.

① The wizard first Displays a Start-Screen. & click on the Next Button. ~~to~~ ~~[illegible]~~

② The Second Screen of the wizard is 'Selecting Interface Members' Page containing 2 lists.

On the left is a list of stand properties, ~~and~~ Methods and events that can be included in the interface of the control.
custom control

On the right is a list of the common members of the user Interface.

To add a new member, select it

from the ~~left~~/Available List & click the button that has a Single Right-Pointing Arrow.

(3) The Third page of the Wizard is the 'Create Custom Interface Members' page, which allows us to add ~~our~~ properties, events and methods that are unique to your custom control by Following these Steps:-

(A) Click the New Button to Display the Add Custom Member dialog Box.
In this Dialog Box, specify the name & type (Property, Method or event) of Custom Member.

(B) In the Name Box; enter the Caption (which is the name
ardy of the property), and Select the Property radio Button.

(C) Click OK. The name of the first Caption ~~ca~~ property is now Displayed in the My Custom Members box of the Create Custom Interface Members Window.

(D) Repeat Step 1 through 3 to add ~~all~~ all the propertis.

(4) The fourth step is Setting Member Mapping Which Specify the functionality of the properties and the properties are added to Specific Constituent Control.

~~To Map the Properties, follow these Steps:-~~

~~1. From the Public Name List, Select a property or an event.~~

The name of the Member is selected from the List on the Left side of the 'Set Mapping' Page of the wizard and assigned to the user control or the Constituent control's member specified on the right side of the Page.

Click the Next Button.

(5) The final step is to display the 'set Attributes' Page is used to set the attributes for any property, Method, and event To set attributes, follow these steps:-

(A) In the public Name box, Select the property

(B) Click the Data type Drop-Down Arrows 2. Select its value

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accordingly.

(6) last is ~~the~~ to Finish the wizard. In this window, click Finish Button to generate the control.

ActiveX control Interface wizard - Finishing

Using the Property Page Wizard:-

(1) Add the wizard to the list of Add-Ins using the Add-In Manager, Select the 'VB6 Property Page wizard' from the Add-In Manager Dialog Box.

(2) To start the wizard select it from the Add-Ins Menu.

(1) The wizard first Displays the Introductory window & click on the Next Button.

(2) The second ~~screen~~ Page 'Select the Property Pages' screen of the wizard is displayed.

This allows us to add the property pages for the user control.

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(A Propertys Dialog can have Multiple ~~controls~~ Pages)

To add a new Property page, click Add. To Include a Property Page, check the check Box to the Left of the Property Page. All property pages you Want must be selected. use the arrow buttons to determine the order of your Property pages.

③ Assigning Properties to the Property Pages.

In this ~~window~~ 'Add Properties' Select the Properties that u want to display on each Property Page. click the Property Page on which you want the selected Property to appear, selected the Property & then click a Move Button.

④ The Wizard Creates a Property Page with the appropriate controls.

⑤ 'Property Pages' window ~~Wizard~~ will be used to change the Properties of the ActiveX control. At run time clicking on the Custom Property in the Properties window ~~dialog~~ displays the Property Page for the user control

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The Extender object provide access to some basic properties of the controls i.e name, width, Height

- To Find out the name ~~of the~~ assigned to the control by the user Calls the Extender Object's Name Property. The Extender object is also your gateway to the certain properties of the parent control, the control on which the custom control is sited.

- The Name Property :- To find Out the name of the Container control & its Dimensions to access E.O use the following Expression

UserControl. Extender. Extproperty

It is an Extender Property name.

To Find the name of the custom control use the following exp:-

UserControl. Extender. Name

- The width & Height Properties :- This properties return the control's Dimensions, as specified by the user.
To find out the control's Dimensions

use the Expressions:-
UserControl. Extender. width
and
User Control. Extender. Height

- The Tag & Index Properties

UserControl. Extender. Tag.

- The Parent Property:- This property returns the object on which your control is sited The UserControl. Extender. Parent Object is one way of accessing the container control's Properties

User Control. Extender. parent. Name
- It Read the Container Control's Name.

User Control. Extender. Parent. BackColor
- To read its Background color
TO find out the container's control Dimensios use this:-
PWidth = User Control. Extender. Parent. Width
PHeight = User Control. Extender. Parent. Height

Program:- Accessing the Extender Object

```
Private Sub UserControl_Click()
Dim Num1 As String
Num1 = "I m a custom control. My
name is " & UserControl.Extender.Name
```

```
num1= "My Dimensions are" & vserControl.
      Entender . width &" by" &
       User Control . Gntender . Height
MSg Box   num1
Raise Event  click
End Sub
```

Forms :-

1 Form is a container control for all the controls that makes up the user Interface.

2 Forms are the very basic component of a VB application.

3 The Form Designer window is the main Window in the middle of the Screen. This window allows you to design and edit the application's user Interfac

The Form Designer Displays 2 window for each form :-

1. The Form Itself (the Elements of the Visible user Interface)

2 A Code Window (The Code behind the elements of the form)

The Appearance of Forms

The main characteristics of a Form is the Title bar on which the Form's Caption is Displayed.

On the left end of the bar is the control Menu

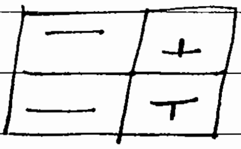
Clicking this icon opens the control Menu.
On the right side of the title bar are three buttons: Minimize, Manimize & close Button.

From Aptech

List Box Controls

List Box Control presents lists of choices for the user to select.
It occupies a user-specified amount of space on the Form and is populated with a list of Item; the user can selects one or more with the mouse.

It Displays a long list of options from which the user can choose.



Adv :- ① The adv. of using a list Box lies in the user not having to remember all possible Options.

List Box allows Multible selection

② It also precludes the possibility of an invalid option.

List Box Properties:-

① Style :- This property Determines the appearance of the control. Its value can be 0 (standard) or 1 (Checkbox)

② MultiSelect:- used to specify if the user can Select Multiple items in the list.

③ Sorted:- used to display the items in a sorted ~~Mann~~ order. If this option is not set to true than the items appear in the order in which they have been added to the list.

④ List Count :- Used to return the number of items in a listBox.

⑤ List Index :- This is the index of the selected item in the list. If Multiple items are Selected, List Index is the Index of the most. Use this property to access specific elements in the list or Delete specific item from the list.

⑦ list() - The list Property of a list box or combo box holds the text of all list elements. ~~Thes~~ Holds the list's Item.

list1. RemoveItem list1. listIndex

⑧ Selected - Sets the selection status of an item in a list Box control.

The list Box control's Method

① Add Item :- To add an item to a list Box, use the AddItem Method.

Syntax:- List1. AddItem Item, Index

The Item Parameter is the string to be added to the list, Index is its order of the Item. The Index argument is optional, if it is omitted, then the string is appended to the bottom of the list.

If the control's sorted Property is set to True, the item is inserted in its proper ~~play~~ place in the list, regardless of the value of the index argument.

② Remove Item:- To remove an element from the list use the Remove Item Method.

Syntax:- list1. RemoveItem Index,
list1 / object

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The Index is required, it specifies which element to remove. The index of the 1st list element is 0, and the index of the last element is list Count - 1.

③ Clear Method
This method removes all the items from the list Box.

Syntax. Object. Clear
list 1. Clear

List Box Events

~~① The Change Event :-~~

① ~~The~~ Set Focus :- used to Make the list Box the current active Element.

② Click :- Occurs each time the user clicks on the list Box.

③ Scroll :- occurs when a user scrolls through the list in the list Box.

It allows the user to specify items that don't Exist in the list.

Combo Box

It also contains Multiple Items but occupies less space on the screen. It is an Expandable list Box control: the user can Expand it to make a selection and retract it after the selection is made.

A combo Box control combines the feature of a text box and a list Box. This control allows the user to select an item either by typing text into the combo Box, or by selecting it from the list.

Combo Box presents a list of choices to the user such that only the selected item is displayed while the rest of the list is Hidden.

Combo Box does not allow Multiple selections.

Properties:-

① style - The value assigned to this Property decides the "look" of the combo Box. There are three combo Box styles :-

(1) vb comboDropDown - 0', Drop Down combo Box Includes a Drop-Down list and a text Box. The user

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a newone Can Select from the list or type in the tent Bon (This is the Default)

(B) V6 Combo Simple - 1; Simple combo bon. ~~Iancludes a list which~~ ~~Ts~~ does Includes a tent Bon and a list that doesn't drop down - The user Can Select from the list or type in the tent Bon.

(C) V6 Drop Down list - 2; This is a Drop - Down list, from which the user can select one of its items, but can't enter it in the tent Bon.

(2) Locked :- used to specify whether the user can enter a value in the tent bon section of the control.

Combo Bon has the following Properties: Inden, list Count, Sorted

Tent Bon:-

(1) It is the primary mechanism for displaying and ~~En~~ Entering tent and is one of the most Common elements of the Windows user interface.
The Tent Bon Control is a small tent editor that provides all the

basic text-editing facilities: inserting and selating text, Scrolling the text if it doesn't fit in the Control's area, and even exchanging text with other applications through the clipboard.

The textbox is an extremely versatile Data Entry tool that can be used for entering a single line of text, such as a number or password.

R, It is also Called Edit Filed or Edit Control.

It displays info. entered at design time, entered by user or Assigned to control in code at runtime.

Property :-

① Multiline- This property Determines whether the text Box control will hold a single line or multiple lines of Text. By default, the control holds a single line of Text. To change this behavior, Set the Multiline Property to true.

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② Scrollbars :- This property controls the attachment of Scrollbars to the Text Box control if the Text exceeds the control's dimensions.
Single line TextBoxes can have a horizontal Scroll Bar so that the user can view any part of a long line of Text.
Multi - line TextBoxes can have a Horizontal or a vertical Scrollbar or both.

③ Alignment Property :- To change the alignment of the text within the box. The values for the alignment Property which can only be Set at the design time (not at run time), are
0 - left Justify
1 - Right Justify
2 - Center.