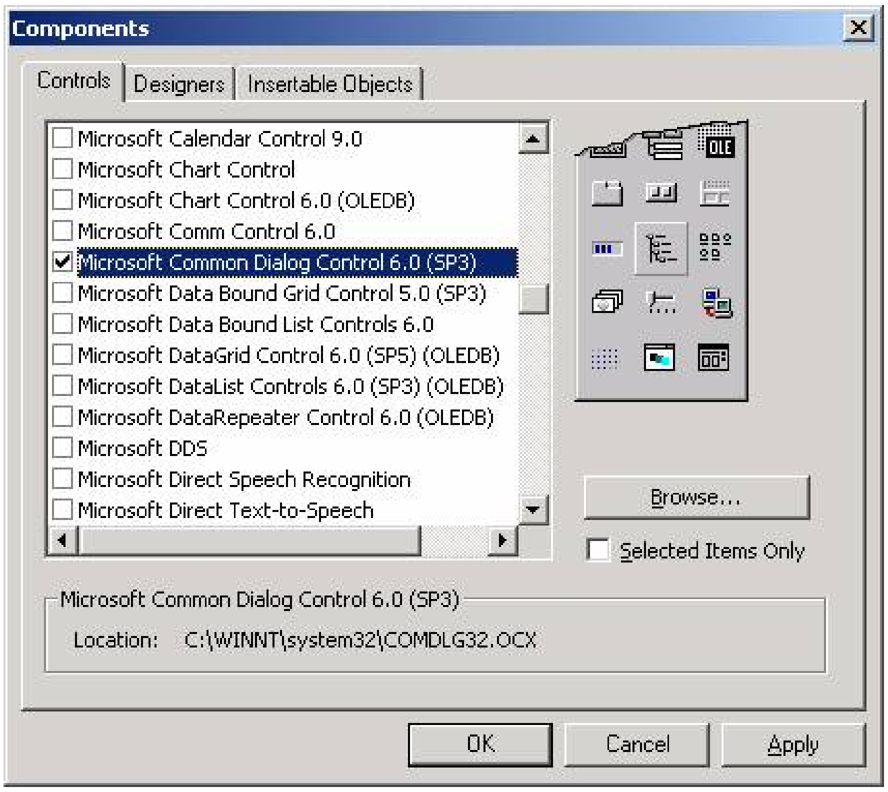
The Common Dialog Control

The Common Dialog control provides a standard set of dialog boxes for operations such as opening, saving, and printing files, as well as selecting colors and fonts and displaying help. Any six of the different dialog boxes can be displayed with just one Common Dialog control. A particular dialog box is displayed by using one of the six "Show..." methods of the Common Dialog control: **ShowOpen**, **ShowSave**, **ShowPrinter**, **ShowColor**, **ShowFont**, or **ShowHelp.**

The Common Dialog control not an intrinsic control; rather, it is an "Active X" control that must be added to the toolbox via the **Components** dialog box, as shown below. This dialog box is accessed via the **Project** menu, **Components** item. Once you check "Microsoft Common Dialog Control 6.0" and click OK, the control is added to your toolbox (also shown below, circled). Then you can double-click it to make it appear on your form, as you would with any other control. The Common Dialog control is not visible at run-time.

The Components Dialog Box



Components

Controls | Designers | Insertable Objects

- ☐ Microsoft Calendar Control 9.0
- ☐ Microsoft Chart Control
- ☐ Microsoft Chart Control 6.0 (OLEDB)
- ☐ Microsoft Comm Control 6.0
- ☑ Microsoft Common Dialog Control 6.0 (SP3)
- ☐ Microsoft Data Bound Grid Control 5.0 (SP3)
- ☐ Microsoft Data Bound List Controls 6.0
- ☐ Microsoft DataGrid Control 6.0 (SP5) (OLEDB)
- ☐ Microsoft DataList Controls 6.0 (SP3) (OLEDB)
- ☐ Microsoft DataRepeater Control 6.0 (OLEDB)
- ☐ Microsoft DDS
- ☐ Microsoft Direct Speech Recognition
- ☐ Microsoft Direct Text-to-Speech

Browse...

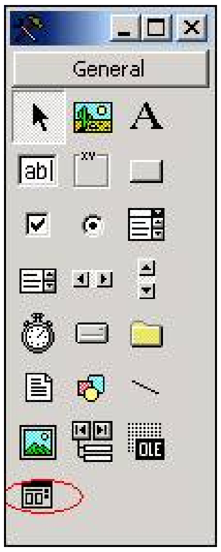
☐ Selected Items Only

Microsoft Common Dialog Control 6.0 (SP3)

Location: C:\WINNT\system32\COMDLG32.OCX

OK | Cancel | Apply

Common Dialog Control Added to Toolbox



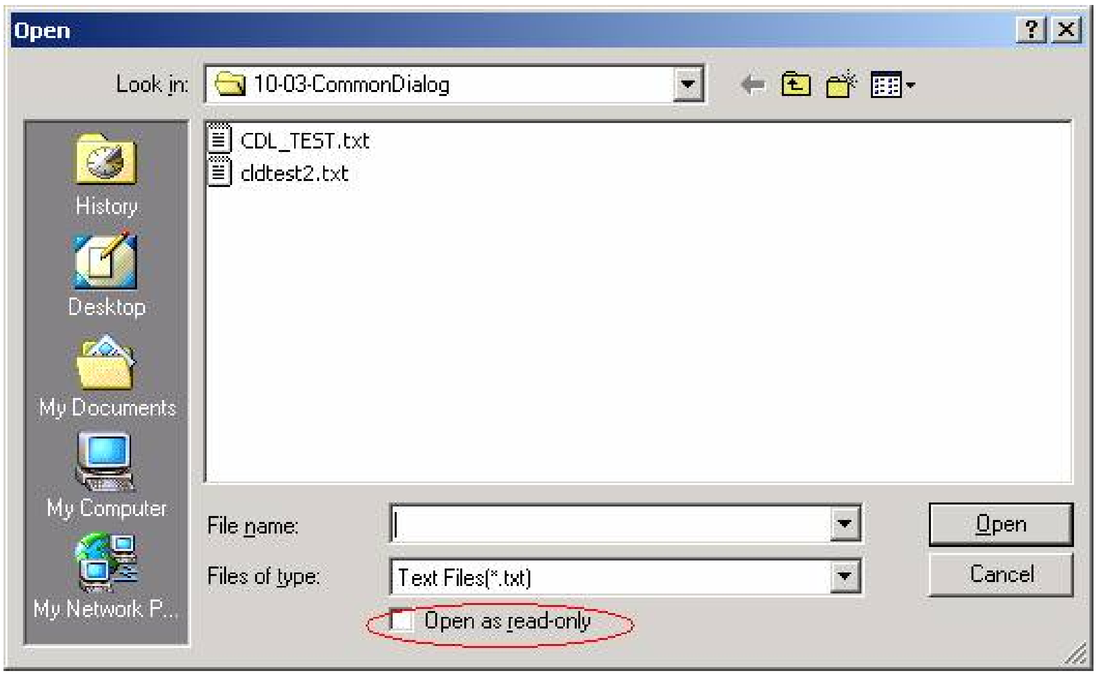
Certain functionality for the dialog boxes is provided automatically by VB and Windows, but other functionality must be coded. For example, with the Open and Save dialog boxes, the functionality to navigate to different drives and directories is built in, but the functionality to actually save or open a file must be coded in your program.

The sample program for this topic will be presented shortly, but first, two properties of the Common Dialog control, **Flags** and **CancelError**, will be discussed briefly.

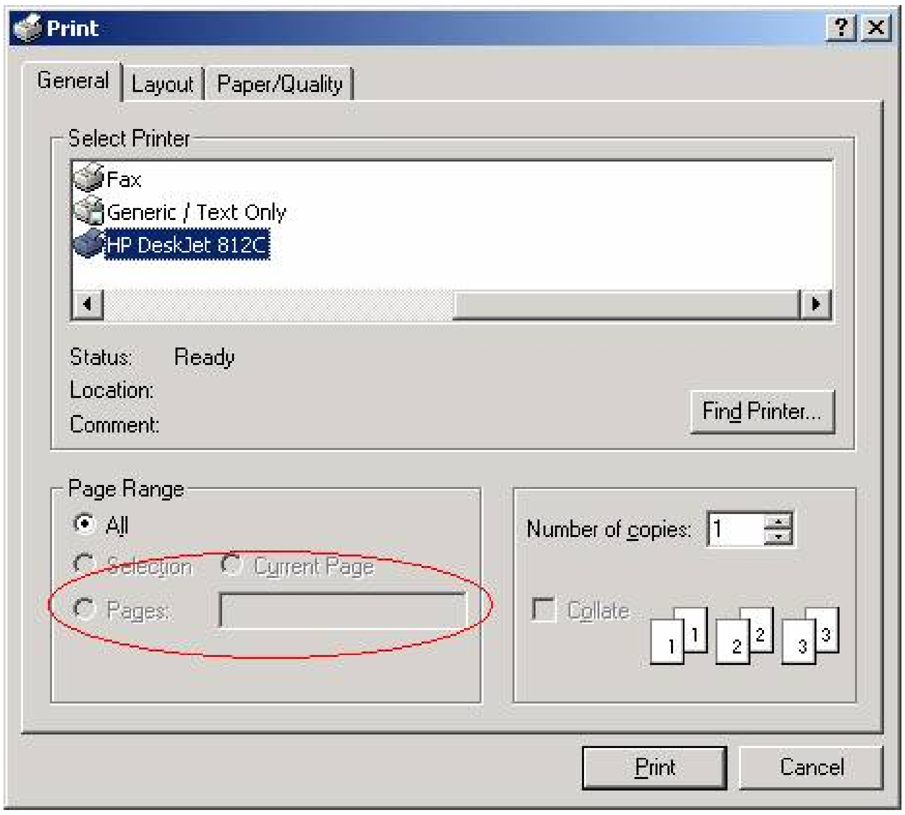
The Flags Property

The appearance and behavior of the dialog boxes can be modified to some degree with the **Flags** property of the Common Dialog control. Wherever possible, you should use the Flags property to control the appearance of the dialog box in question such that you only present features to the user that your application supports. Examples follow.

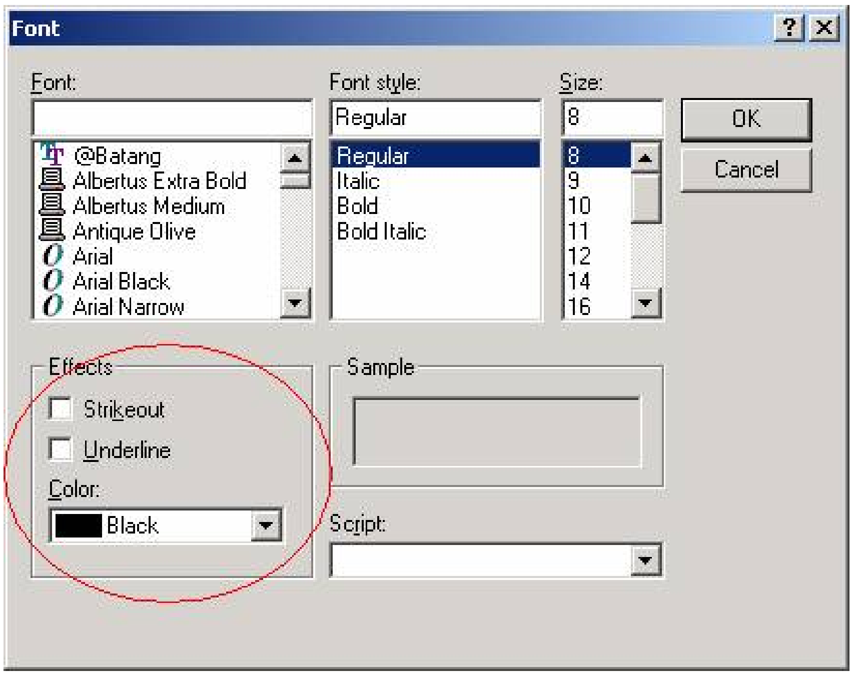
(1) Shown below is a screen shot of the **Open** Common Dialog Box. Note that the item "Open as read only" is circled. You can use the Flags property to suppress this item (you should only show it if your application will let the user decide whether or not to open the file as read-only).



(2) Shown below is a screen shot of the **Print** Common Dialog Box. Note that the circled items in the "Page Range" area (for printing a selection or a specific page range) are grayed out. These items were disabled via **Flags** property settings. You should only enable such options if your program contains the logic to act on them.



(3) Shown below is a screen shot of the **Font** Common Dialog Box. The **Flags** property can control whether or not the "Effects" area (circled) is displayed.



The CancelError Property

In order to test whether or not the user clicked the **Cancel** button on a Common Dialog box, you must set up special error-handling logic. If you don't, VB will treat the clicking of the Cancel button as an unhandled error and will thus cause your program to end abruptly (this will not exactly endear you to your users).

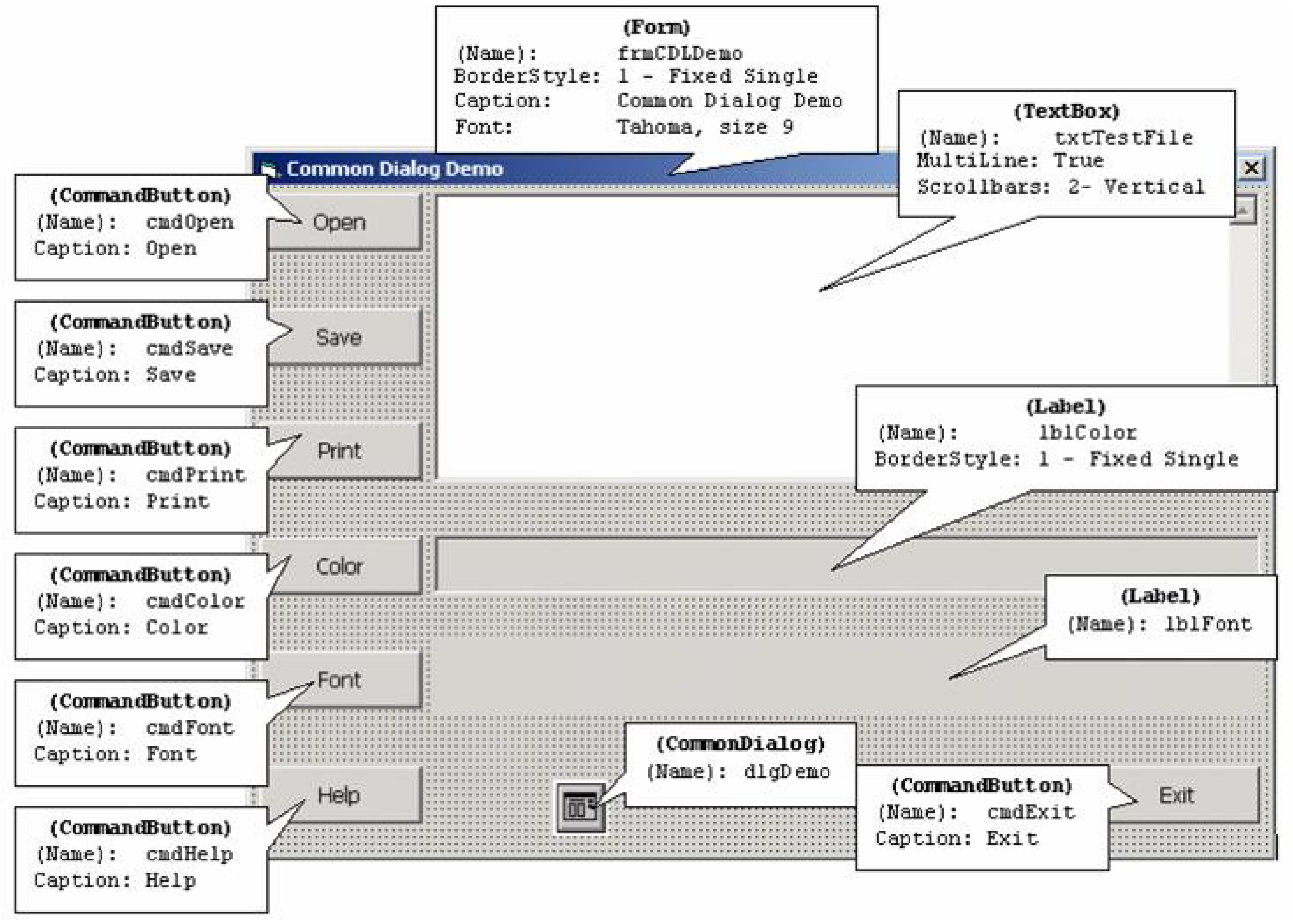
You can test to see whether or not the user clicked the Cancel button by setting the **CancelError** property to **True** – this causes an error routine you have written (using the "On Error Goto *label* technique) to be executed when the user clicks Cancel.

The basic structure of a VB procedure that displays a Common Dialog box should be as follows:

```
Private Sub WHATEVER()

    DECLARE LOCAL VARIABLES

    ON ERROR GOTO CANCELERROR_ROUTINE

    SET CancelError PROPERTY TO TRUE (e.g., CommonDialog1.CancelError = True)
    SET Flags AND OTHER PROPERTIES TO APPROPRIATE VALUES
    SHOW THE COMMON DIALOG (e.g., CommonDialog1.ShowSave)

    ' When you show the common dialog box, processing is suspending until the
    ' user performs an action. If they click the Cancel button, VB will jump
    ' to the error-handling routine you set up (i.e., CANCELERROR_ROUTINE).

    ' Assuming the user did not click Cancel, continue processing below ...

    ' Now that the dialog box is done being shown, we can put a "normal" error-
    ' handling routine in place, if desired ...
    On Error GoTo NORMAL_ERROR_ROUTINE

    NORMAL PROCESSING HERE

    ' Exit here so that you don't fall through to the error-handling logic
    Exit Sub

NORMAL_ERROR_ROUTINE:
    MsgBox "Err # " & Err.Number & " - " & Err.Description, vbCritical, "Error"
    Exit Sub

CANCELERROR_ROUTINE:
    ' Do nothing, no problem if user clicks Cancel button ...
End Sub
```

COMMON DIALOG DEMO PROGRAM

The Common Dialog demo program shows how to use each of the six types of dialog boxes. The design-time form is shown below, with the names and property settings for each control on the form, as well as for the form itself, shown in callouts.



```
(Form)
(Name):       frmCDLDemo
BorderStyle:  1 - Fixed Single
Caption:      Common Dialog Demo
Font:         Tahoma, size 9

(TextBox)
(Name):     txtTestFile
MultiLine:  True
Scrollbars: 2- Vertical

(CommandButton)
(Name):   cmdOpen
Caption:  Open

(CommandButton)
(Name):   cmdSave
Caption:  Save

(CommandButton)
(Name):   cmdPrint
Caption:  Print

(CommandButton)
(Name):   cmdColor
Caption:  Color

(CommandButton)
(Name):   cmdFont
Caption:  Font

(CommandButton)
(Name):   cmdHelp
Caption:  Help

(Label)
(Name):       lblColor
BorderStyle:  1 - Fixed Single

(Label)
(Name): lblFont

(CommonDialog)
(Name):  dlgDemo

(CommandButton)
(Name):   cmdExit
Caption:  Exit
```

The coding for the demo program is provided below, with explanations.

The General Declarations Section

In the General Declarations section, a form-level String variable, **mstrLastDir**, is declared. This variable is used to store the directory of the last file accessed by an Open or Save operation, so it can be subsequently used as the default directory for the next Open or Save operation.

```
Option Explicit

Private mstrLastDir As String
```

The Form_Load Event

In the Form_Load event, the variable **mstrLastDir** is initialized to path where the program is running; this will serve as the default directory the first time that an Open or Save operation is performed.

```
Private Sub Form_Load()
    mstrLastDir = App.Path
End Sub
```

The cmdOpen_Click Event

This event fires when the user clicks the **Open** button. The procedure follows the structure described above in the section discussed the CancelError property. Local variables are declared, an On Error statement is set up as part of the Cancel error handler, and then various properties of the Common Dialog box (**dlgDemo**) are set.

As discussed above, setting the **CancelError** property to True enables us to handle the run-time error that will occur if the user clicks the dialog's Cancel button.

The **InitDir** property tells the Common Dialog control where to start its navigation of the file system. As discussed above, we are using the form-level variable **mstrLastDir** to value this property.

The **Flags** property, as discussed earlier, is used to modify the appearance and/or behavior of the dialog boxes. The Flags property is set by assigning one or more predefined VB constants (all beginning with the letters "cdl") to it. If more than one flag is to be assigned to the Flags property, you do so by adding the constants together:

```
        CommonDialog1.Flags = cdlThisFlag + cdlThatFlag + cdlTheOtherFlag
```

Multiple flags can also be assigned by joining them together with the logical **Or** operator:

```
        CommonDialog1.Flags = cdlThisFlag Or cdlThatFlag Or cdlTheOtherFlag
```

In this case, we are assigning one flag to the Flags property, **cdlOFNHideReadOnly**, which tells the Common Dialog control to suppress the "Open as read only" checkbox.

The **FileName** property is initially set to "" so that a filename is not pre-selected when the dialog box is displayed (if we wanted to, we could initialize it with a default filename). After the Common Dialog has been shown and the user has interacted with it, we use the FileName property to determine what file the user has selected.

The **Filter** property is a pipe-delimited string specifying what types of files should be shown in the file list portion of the Common Dialog box. The Filter string specifies a list of file filters that are displayed in the **Files of type** drop-down box. The Filter property string has the following format:

description1 | filter1 | description2 | filter2...

Description is the string displayed in the list box — for example, "**Text Files (*.txt)**." *Filter* is the actual file filter — for example, "***.txt.**" Each *description | filter* set must be separated by a pipe symbol (|).

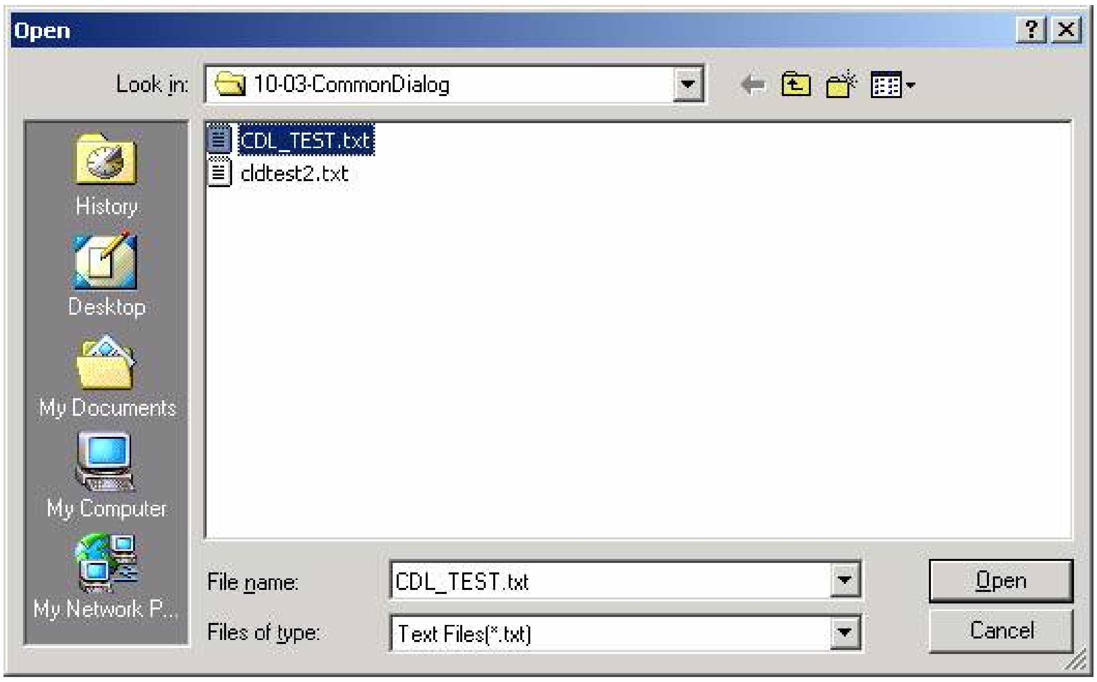
The **ShowOpen** method displays the Open Common Dialog box. At this point, processing will pause until the user either selects a file to open and clicks OK, or clicks Cancel. If the user clicks Cancel, the process will branch to the **cmdOpen_Click_Exit** label and the procedure will end. If the user selects a file and clicks OK, processing will continue with the statement following the execution of the ShowOpen method.

Assuming the user selects a file and clicks OK, the **FileName** property, which now contains the full path and filename of the file that the user selected, is assigned to the local variable **strFileToOpen**. The remaining code actually opens the file and loads into the mutli-line textbox (the code uses techniques discussed in previous topics). The statement prior to Exit Sub resets the **mstrLastDir** variable to reflect the path of the file that the user had selected.

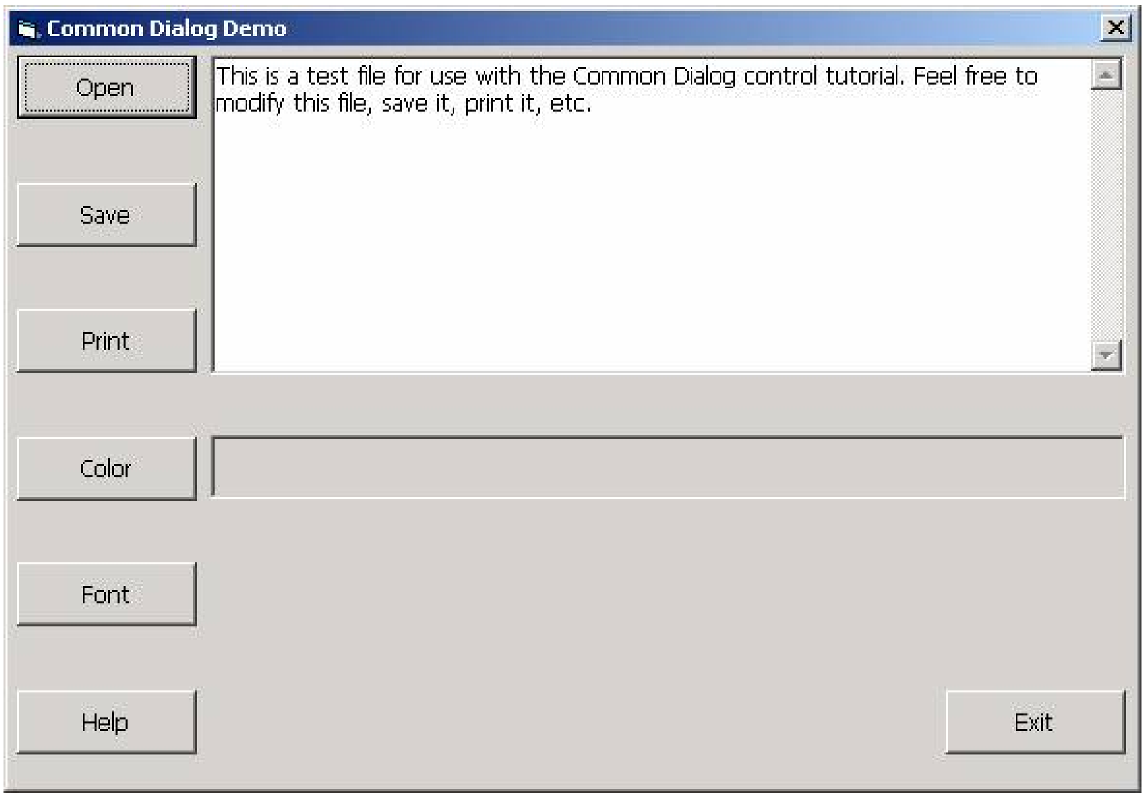
```
Private Sub cmdOpen_Click()

    Dim strBuffer       As String
    Dim intDemoFileNbr  As Integer
    Dim strFileToOpen   As String

    On Error GoTo cmdOpen_Click_Exit

    With dlgDemo
        .CancelError = True
        .InitDir = mstrLastDir
        .Flags = cdlOFNHideReadOnly
        .FileName = ""
        .Filter = "Text Files(*.txt)|*.txt|All Files(*.*)|*.*"
        .ShowOpen
        strFileToOpen = .FileName
    End With

    On Error GoTo cmdOpen_Click_Error

    intDemoFileNbr = FreeFile
    Open strFileToOpen For Binary Access Read As #intDemoFileNbr
    strBuffer = Input(LOF(intDemoFileNbr), intDemoFileNbr)
    txtTestFile.Text = strBuffer
    Close #intDemoFileNbr

    mstrLastDir = Left$(strFileToOpen, InStrRev(strFileToOpen, "\") - 1)

    Exit Sub

cmdOpen_Click_Error:
    MsgBox "The following error has occurred:" & vbNewLine _
         & "Err # " & Err.Number & " - " & Err.Description, _
           vbCritical, _
           "Open Error"
```

```
cmdOpen_Click_Exit:
End Sub
```

Screen shot of the Open Common Dialog box:



Screen shot of the main form after the user has opened the "CDL_TEST.txt" File:



This is a test file for use with the Common Dialog control tutorial. Feel free to modify this file, save it, print it, etc.

The cmdSave_Click Event

This event fires when the user clicks the **Save** button. In this demo application, the contents of the multi-line textbox will be saved to filename specified. The code for this event procedure is very similar to that of the cmdOpen_Click event, with the obvious differences that the **ShowSave** method of the Common Dialog control is invoked, and that we are writing out a file rather than reading one in.

We are assigning two flags to the Flags property, **cdlOFNOverwritePrompt** (which will cause the Common Dialog control to automatically prompt the user for confirmation if they attempt to save a file that already exists) and

cdlOFNPathMustExist (which specifies that the user can enter only valid paths - if this flag is set and the user enters an invalid path, a warning message is displayed).

```
Private Sub cmdSave_Click()

    Dim strBuffer       As String
    Dim intDemoFileNbr  As Integer
    Dim strFileToSave   As String

    On Error GoTo cmdSave_Click_Exit

    With dlgDemo
        .CancelError = True
        .InitDir = mstrLastDir
        .Flags = cdlOFNOverwritePrompt + cdlOFNPathMustExist
        .FileName = ""
        .Filter = "Text Files(*.txt)|*.txt|All Files(*.*)|*.*"
        .ShowSave
        strFileToSave = .FileName
    End With

    On Error GoTo cmdSave_Click_Error

    intDemoFileNbr = FreeFile
    Open strFileToSave For Binary Access Write As #intDemoFileNbr
    strBuffer = txtTestFile.Text
    Put #intDemoFileNbr, , strBuffer
    Close #intDemoFileNbr

    mstrLastDir = Left$(strFileToSave, InStrRev(strFileToSave, "\") - 1)

    Exit Sub

cmdSave_Click_Error:
    MsgBox "The following error has occurred:" & vbNewLine _
         & "Err # " & Err.Number & " - " & Err.Description, _
           vbCritical, _
           "Save Error"

cmdSave_Click_Exit:
End Sub
```

The cmdPrint_Click Event

This event fires when the user clicks the **Print** button. In this demo application, this will cause the contents of the multi-line textbox to be printed to the printer specified.

We are assigning three flags to the **Flags** property, **cdlPDHidePrintToFile** (which suppresses the display of the "Print to file" checkbox), **cdlPDNoPageNums** (which grays out the "Pages" option of the "Page Range" area) and **cdlPDNoSelection** (which grays out the "Selection" option of the "Page Range" area).

Note that after the **ShowPrinter** method is executed, we are saving the value of the **Copies** property, as our program must implement the logic to print multiple copies if the user has selected more than one copy on the "Number of copies" spinner of the Printer Common Dialog box. Following that, various methods and properties of the Printer object are employed to carry out the task of printing the textbox contents.

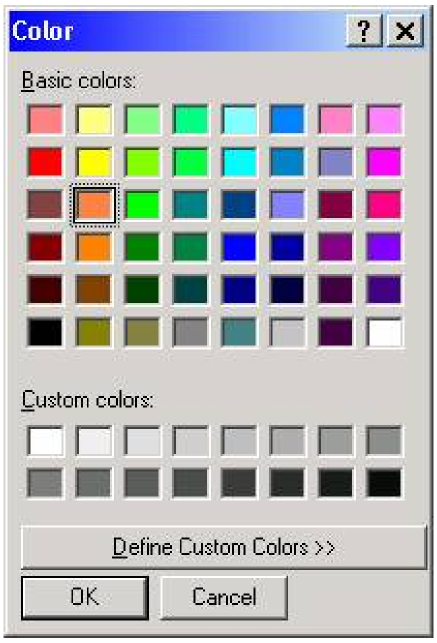
```
Private Sub cmdPrint_Click()

    Dim intX        As Integer
    Dim intCopies   As Integer

    On Error GoTo cmdPrint_Click_Exit

    With dlgDemo
        .CancelError = True
        .Flags = cdlPDHidePrintToFile + cdlPDNoPageNums _
               + cdlPDNoSelection
        .ShowPrinter
        intCopies = .Copies
    End With
    On Error GoTo cmdPrint_Click_Error

    For intX = 0 To Printer.FontCount - 1
        If Printer.Fonts(intX) Like "Courier*" Then
            Printer.FontName = Printer.Fonts(intX)
            Exit For
        End If
    Next
    Printer.FontSize = 10
    For intX = 1 To intCopies
        If intX > 1 Then
            Printer.NewPage
        End If
        Printer.Print txtTestFile.Text
    Next
    Printer.EndDoc

    Exit Sub

cmdPrint_Click_Error:
    MsgBox "The following error has occurred:" & vbNewLine _
         & "Err # " & Err.Number & " - " & Err.Description, _
           vbCritical, _
           "Print Error"

cmdPrint_Click_Exit:
End Sub
```

The cmdColor_Click Event

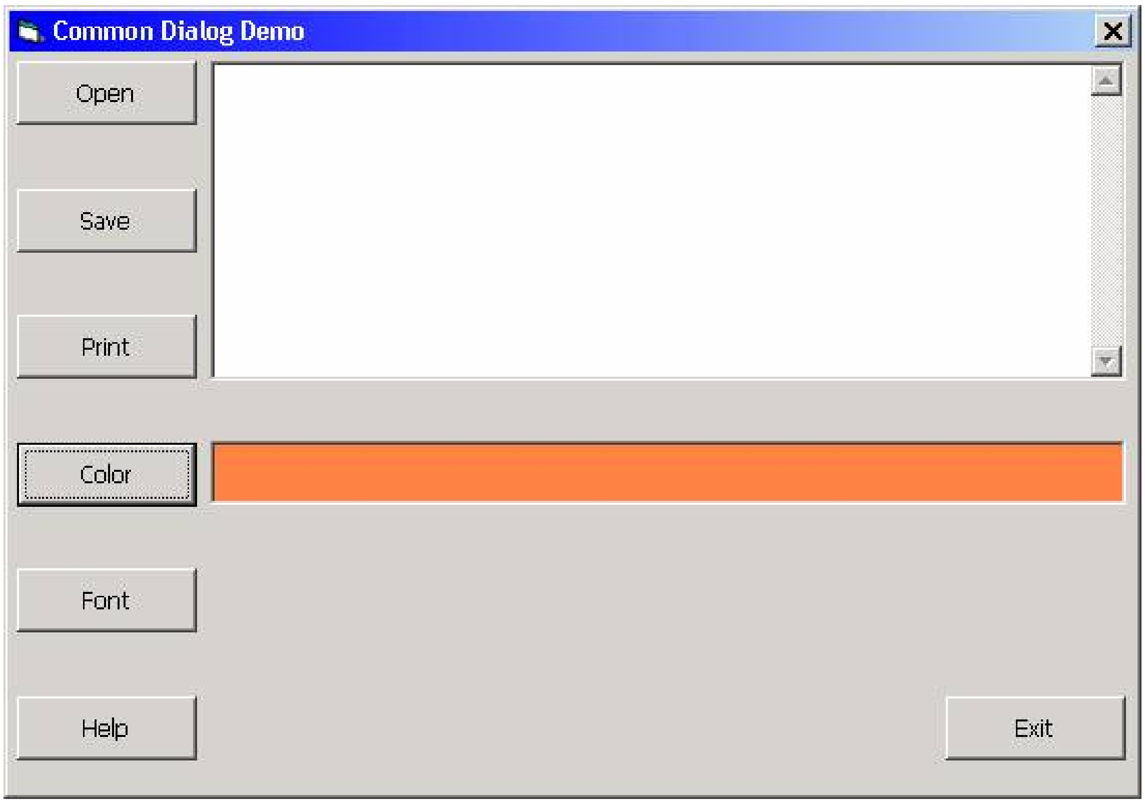
This event fires when the user clicks the **Color** button. In this demo application, this will cause the **BackColor** property of the Label **lblColor** to change to the selected color. In this example, no flags are set for the Color Common Dialog box. After the **ShowColor** method has been executed, the selected color is retrieved from the Common Dialog control's **Color** property.

```
Private Sub cmdColor_Click()

    Dim lngColor    As Long

    On Error GoTo cmdColor_Click_Exit

    With dlgDemo
        .CancelError = True
        .ShowColor
        lngColor = .Color
    End With

    On Error GoTo cmdColor_Click_Error

    lblColor.BackColor = lngColor

    Exit Sub

cmdColor_Click_Error:
    MsgBox "The following error has occurred:" & vbNewLine _
         & "Err # " & Err.Number & " - " & Err.Description, _
           vbCritical, _
           "Color Error"

cmdColor_Click_Exit:
End Sub
```

Screen shot of the Color Common Dialog box:



Screen shot of the main form after the user has selected the orange color:



The cmdFont_Click Event

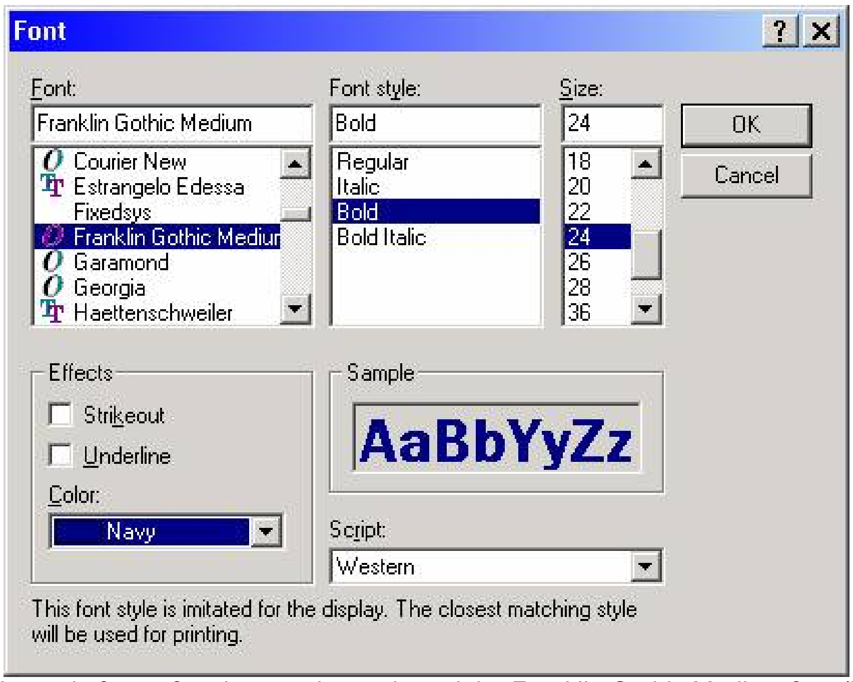
This event fires when the user clicks the **Font** button. In this demo application, this will cause the font-related attributes selected in the Font Common Dialog box to be assigned to the corresponding properties of the Label **lblFont**.

We are assigning three flags to the **Flags** property, **cdlCFBoth** (which Causes the dialog box to list the available printer and screen fonts), **cdlCFForceFontExist** (which specifies that an error message box is displayed if the user attempts to select a font or style that doesn't exist) and **cdlCFEffects** (which specifies that the dialog box enables strikethrough, underline, and color effects).

```
Private Sub cmdFont_Click()

    Dim lngFont     As Long

    On Error GoTo cmdFont_Click_Exit

    With dlgDemo
```

```
        .CancelError = True
        .Flags = cdlCFBoth + cdlCFForceFontExist + cdlCFEffects
        .ShowFont
        On Error GoTo cmdFont_Click_Error
        lblFont.FontBold = .FontBold
        lblFont.FontItalic = .FontItalic
        lblFont.FontName = .FontName
        lblFont.FontSize = .FontSize
        lblFont.FontStrikethru = .FontStrikethru
        lblFont.FontUnderline = .FontUnderline
        lblFont.ForeColor = .Color
        lblFont.Caption = .FontName & ", " & .FontSize & " pt"
    End With

    Exit Sub

cmdFont_Click_Error:
    MsgBox "The following error has occurred:" & vbNewLine _
         & "Err # " & Err.Number & " - " & Err.Description, _
           vbCritical, _
           "Font Error"

cmdFont_Click_Exit:
End Sub
```

Screen shot of the Font Common Dialog box:


Font

Font: Franklin Gothic Medium

Font style: Bold

Size: 24

Courier New
Estrangelo Edessa
Fixedsys
Franklin Gothic Medium
Garamond
Georgia
Haettenschweiler

Regular
Italic
Bold
Bold Italic

18
20
22
24
26
28
36

OK
Cancel

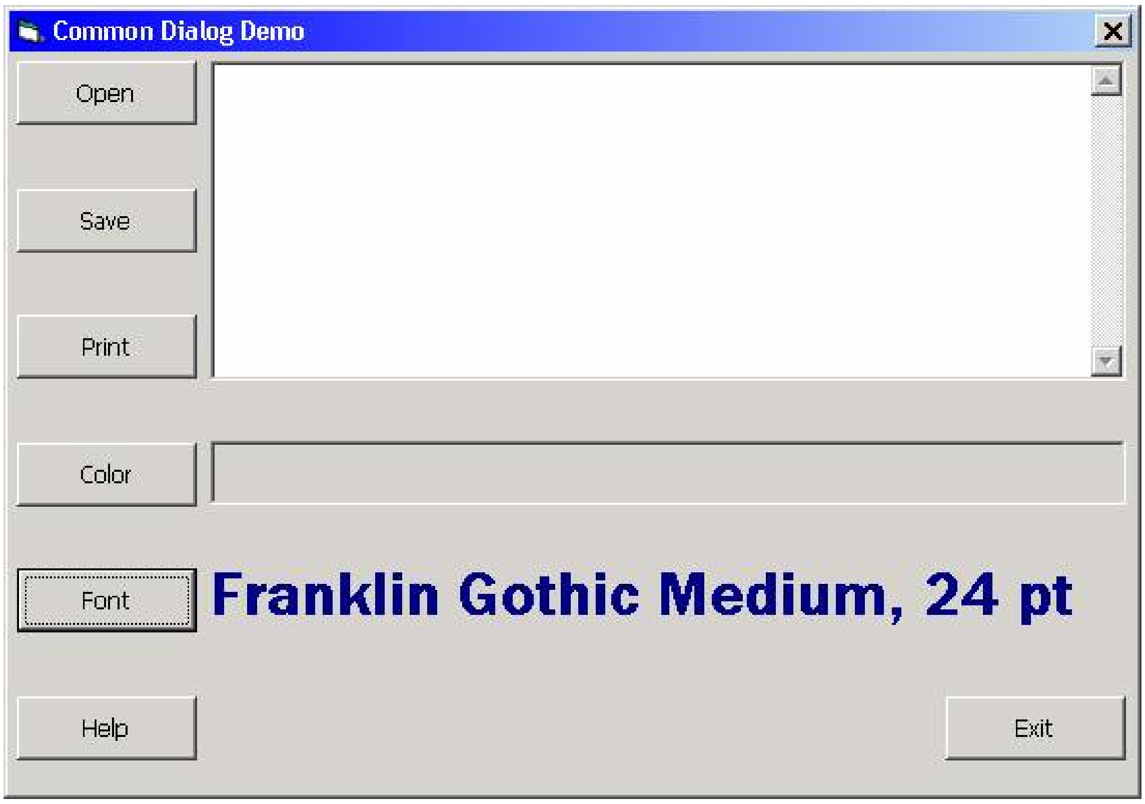
Effects
Strikeout
Underline
Color: Navy

Sample
AaBbYyZz

Script: Western

This font style is imitated for the display. The closest matching style will be used for printing.

Screen shot of the main form after the user has selected the Franklin Gothic Medium font (Bold, Size 24, in Navy color):



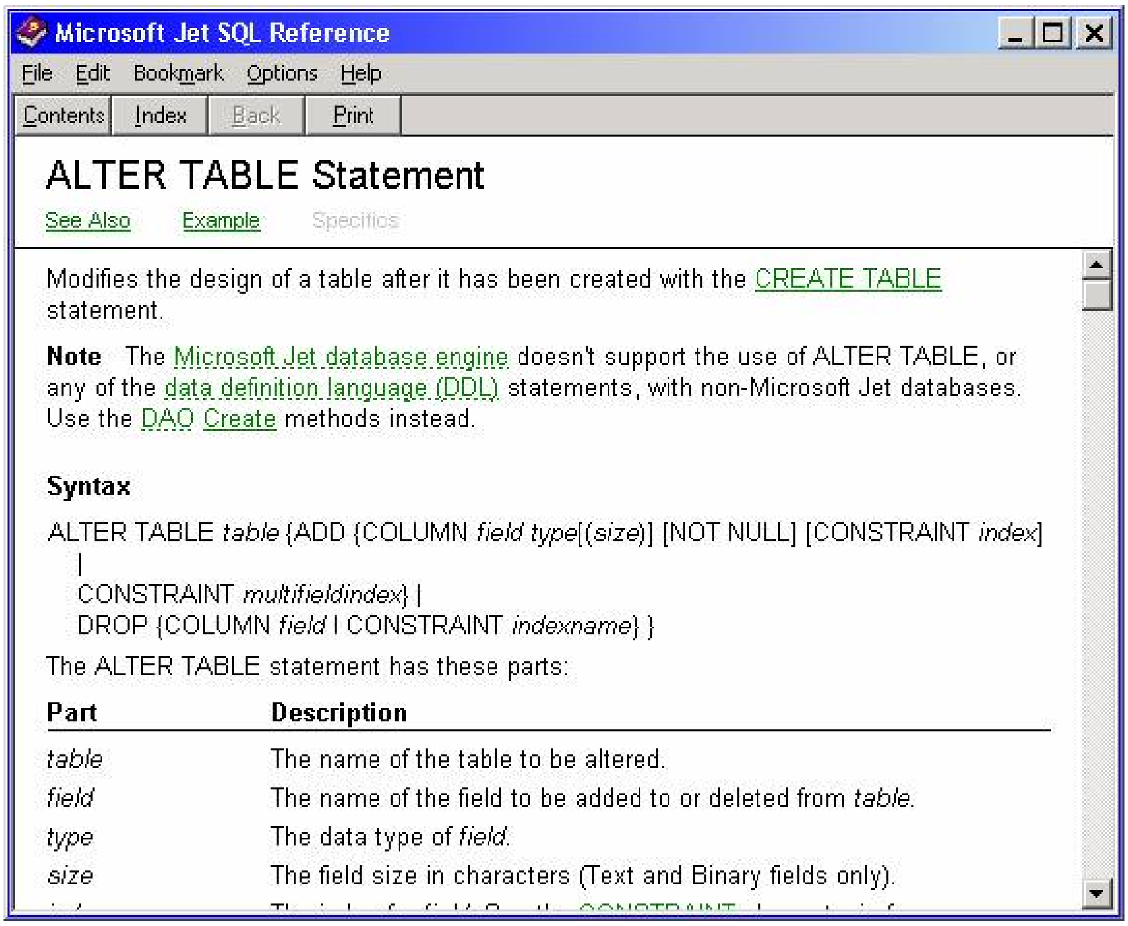
The cmdHelp_Click Event

This event fires when the user clicks the **Help** button. In this event, the **ShowHelp** method of the Common Dialog control is invoked. Unlike the other five "Show" methods, ShowHelp does not display a dialog box per se, but rather it invokes the Windows Help Engine (Winhlp32.exe) to display a help file. ShowHelp can only display help files that are in "classic" WinHelp format (these files normally have the **.hlp** extension) – the ShowHelp method CANNOT display an HTML-format help file (files that normally have the extension **.chm**).

In order for the Help file to be displayed, the **HelpCommand** and **HelpFile** properties of the Common Dialog control must be set to appropriate values. In the demo program, the HelpCommand property is set to **cdlHelpForceFile** (which ensures WinHelp displays the correct help file), and the HelpFile property is set to the MS-Jet SQL Help file (JETSQL35.HLP).

```
Private Sub cmdHelp_Click()

    On Error GoTo cmdHelp_Click_Error

    With dlgDemo
        .CancelError = True
        .HelpCommand = cdlHelpForceFile
        .HelpFile = App.Path & "\JETSQL35.HLP"
        .ShowHelp
    End With

    Exit Sub

cmdHelp_Click_Error:
End Sub
```

Screen shot of the Help File displayed by the demo program when ShowHelp is invoked:


Microsoft Jet SQL Reference
File Edit Bookmark Options Help
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ALTER TABLE Statement

See Also Example Specifics

Modifies the design of a table after it has been created with the CREATE TABLE statement.

Note The Microsoft Jet database engine doesn't support the use of ALTER TABLE, or any of the data definition language (DDL) statements, with non-Microsoft Jet databases. Use the DAO Create methods instead.

Syntax

ALTER TABLE *table* {ADD {COLUMN *field type*[(*size*)] [NOT NULL] [CONSTRAINT *index*]
|
CONSTRAINT *multifieldindex*} |
DROP {COLUMN *field* I CONSTRAINT *indexname*} }

The ALTER TABLE statement has these parts:

Part	Description
table	The name of the table to be altered.
field	The name of the field to be added to or deleted from *table*.
type	The data type of *field*.
size	The field size in characters (Text and Binary fields only).

Download the project files for this topic here.