yesnono&AboutyesTRUEyesyesyesWIndows Interface Language Help FileWILyes27/10/95

Welcome to the Windows Interface Language Help file. WIL is a complete systems control batch language for the Windows operating system. This help file contains a listing of WIL functions and commands as well as information to help you get started.

Before you can do anything useful with the WIL interpreter, you must have at least one script file to interpret. You can create them with WinEdit (Wilson WindowWares optional text editor for programmers), the Windows Notepad or another text editor. If you need additional information on getting started, see the WIL Tutorial below.

WHO uses WIL

WHY they use WIL

WHAT is WIL

WIL statements are constructed from **constants**, **variables**, **operators**, **functions**, **commands**, and **comments**.

Each line in a WIL program can be up to 255 characters long.

The programming language supports both integer and string constants.

A listing of the WIL commands according to what type of function they perform.

PC professionals who operate in a Microsoft Windows environment.

- They write small batch files to use as system management utilities. Connecting to network servers, printing batch jobs out at odd hours, upgrading software, and metering application use are just a few of the chores handled by the system utilities made with WIL.

- They write major business applications. Experience with small utilities encourages the leap to major projects. WIL is the common glue that can bind any off-the-shelf or custom Windows and DOS programs together. With WIL as the common glue, software from any vendors can be combined to make a solution. Automated business solutions save time, save money, and make money for the companies using them to leverage their investment in hardware, software and people.

- They use WIL to become more effective and powerful in their careers as PC professionals. An effective system utility programming tool like WIL enables the quick and responsive solutions that are the hallmark of the true professional.

Windows Automation with the Simplicity of Batch File Programming.

Powerful, easy-to-learn procedural language

It Can:

* Run Windows and DOS programs.
* Send keystrokes directly to Windows and DOS applications.
* Rearrange, resize, hide, and close windows.
* Run programs either concurrently or sequentially.
* Display information to the user in various formats.
* Prompt the user for any needed input.
* Present scrollable file and directory lists.
* Copy, move, delete, and rename files.
* Read and write files directly.
* Copy text to and from the Clipboard.
* Perform string and arithmetic operations.
* Make branching decisions based upon numerous factors.

WIL is a universal macro language that works from Windows applications. It can manipulate Windows applications, DOS applications, PC hardware operations, and virtually any other operations Windows programs are capable of. WIL is available as an independent macro scripting language. WinBatch and WinBatch Compiler are the only two products that contain WIL alone.

WIL is also available as a component of other Windows applications. These include WinEdit, File Commander, Clock Manager, and Command Post. WIL can be added to any Windows application. For each application, custom extensions to the WIL language add functions unique to that application and its use.

This manual is a function reference for the WIL language itself, as well as a guide to creating basic WIL programs. Because WIL can be implemented in many different ways, with several different applications, this manual must at times be somewhat general. Therefore, you will need to refer to your specific application's User's Guide. Your product-specific documentation supersedes the information provided in this Reference Manual.

WIL can be implemented in two basic "flavors": batch and menu. WinBatch is an example of a batch file implementation.

WinEdit, File Commander, Command Post, and Clock Manager are examples of menu file implementations.

Batch Files

In a batch implementation, WIL statements are written as a script in a text file. This list is turned into a series of operations by the WinBatch script interpreter. The WinBatch program opens and runs this file and converts it into a series of step-by-step operations. The WinBatch Compiler takes this process one step further by combining the interpreter and the script to make a single Windows program. This can be run like any other Windows program; free from license fees and royalties to Wilson WindowWare.

Menu Files

In a menu system, WIL commands are defined in one or more **menu files**, each of which can contain many different tasks, or **menu items**. In a batch system, each task is contained in a separate **batch file**. In this manual, we will use the term **WIL program** to refer to both an individual menu item and to a batch file, each of which performs an individual task (which can, in turn, consist of many different commands). We will use the term **WIL Interpreter** to refer to that part of your application which is responsible for executing WIL programs.

The symbol **{*M}** will be used to indicate a function or a section of the manual which applies only to menu-based implementations of the WIL Interpreter.

Note: WinBatch and Clock Manager are **batch file** applications, File Commander, WinEdit and Command Post are **menu file** applications.

Throughout this manual, we use the following conventions to distinguish elements of text:

ALL-CAPS

Used for filenames.

Boldface

Used for important points, programs, function names, and parts of syntax that must appear as shown.

`system`

Used for items in menus and dialogs, as they appear to the user.

```
Small fixed-width
```

Used for WIL sample code.

Italics

Used for emphasis, and to liven up the documentation just a bit.

This section of the manual shows how to create WIL menu files. It is presented here so that you will be able to follow along with the tutorial material which follows. It is not important at this point to understand the actual commands which are shown in the menus.

If you are using a batch file-based implementation of WIL, you can skip this section and move on to the WIL Tutorial.

WIL menus are defined in standard ASCII text files (the kind created by Notepad). See your product documentation for the name of the default menu file that it uses.

Every menu file contains one or more **menu items** which appear in drop-down menus. They may also contain top-level menu names which show up in a main menu bar (refer to your product documentation for more information). Each menu item consists of a **title** which identifies the item, followed by one or more lines of menu **code** which the WIL Interpreter will execute when you choose the item.

Your application probably included a pre-defined sample menu, and you should refer to it as a practical example of correct menu structure. Here is an extremely simple menu file:

```
&Games
 &Solitaire
   Run("sol.exe", "")
```

The first line, **&Games**, begins in column 1, and therefore defines a top-level menu item. Depending on the product you are using, it may either appear on a menu bar or it may appear on the first-level drop-down menu. The ampersand (**&**) is optional; it defines an Alt-key combination for the entry (Alt-G in this example). It will appear in the menu as **Games.**

The second line, **&Solitaire**, begins in column 2, and defines the **title** for an individual menu item. Again, the ampersand (**&**) is optional, and defines an Alt-key combination of Alt-S. This item will appear in the menu as **Solitaire.**

The third line, **Run("sol.exe", "")**, is the actual code which will be executed when this menu item is selected. Like all menu code, it must be indented at least four spaces (i.e., it must begin in column 5 or higher). This third line is really the entire **WIL program**; the two lines above it are simply titles which define the position of the program (i.e., the menu item) in the overall menu structure.

Here's a slightly expanded version of the program:

```
&Games
 &Solitaire
   Display(1, "Game Time", "About to play Solitaire")
   Run("sol.exe", "")
```

Here, we've simply added a line of code, changing this into a two-line program. Notice that each additional line of code is still indented the same four spaces.

Now, let's look at a menu file which contains two menu items:

```
&Games
 &Solitaire
   Run("sol.exe", "")
 &Minesweeper
   Run("winmine.exe", "")
```

We've added a new menu item, **Minesweeper**, which begins in column 2 (like **Solitaire**) and will appear under the top-level menu item **Games** (like **Solitaire**).

To add a new top-level menu item, just create a new entry beginning in column 1:

```
&Games
 &Solitaire
      Run("sol.exe", "")
 &Minesweeper
      Run("winmine.exe", "")

&Applications
 &Notepad
      Run("notepad.exe", "")
 &WinEdit
      Run("winedit.exe", "")
```

Now there are two top-level menu titles, **Games** and **Applications**, each of which contains two individual items (the blank line between **Games** and **Applications** is not necessary, but is there just for readability).

In Win95 a comment can be displayed on the status bar in the Windows Explorer. This works only for top level menu items. The comment must be on the same line as the top level item. For example, the menu item below is a main menu for running Games, "Killers of Time" is the comment that appears in the status bar.

```
  &Games     ;Killers of Time
   &Solitaire
      Run("sol.exe", "")
```

In addition to top-level menus, you can optionally define one or two levels of **submenus**. The titles for the first-level and second-level submenus must begin in columns 2, and 3, respectively, and the individual menu items they contain must be indented one additional column. For example:

```
&Applications
 &Editors
  &Notepad
      Run("notepad.exe", "")
  &WinEdit
      Run("winedit.exe", "")

 &Excel
      Run("excel.exe", "")
```

In the above example, **Editors** is a submenu (which begins in column 2), which contains two menu items (which begin in column 3). **Excel** also begins in column 2, but since it does not have any submenus defined below it, it is a **bottom-level** (i.e., individual) menu item. Here's an even more complex example:

```
&Applications
```

```
&Editors
 &Notepad
     Run("notepad.exe", "")
 &WinEdit
     Run("winedit.exe", "")

|&Spreadsheets
 &Windows-based
  &Excel
     Run("excel.exe", "")

 _&DOS-based
  &Quattro
     Run("q.exe", "")
```

We've added an additional level of submenus under **Spreadsheets**, so that the bottom-level menu items (**Excel** and **Quattro**) now begin in column 4. There are also two special symbols presented in this menu: the underscore (**_**), which causes a horizontal separator line to be drawn above the associated menu title, and the vertical bar (**|**), which causes the associated menu title to appear in a new column.

Some applications allow you to place an individual (bottom-level) menu item in column 1:

```
&Notepad
      Run("notepad.exe", "")
```

in which case it will appear on the top-level menu, but will be executed immediately upon being selected (i.e., there will be no drop-down menu).

As stated earlier, menu files must be created and edited with an editor, such as **Notepad**, that is capable of saving files in pure ASCII text format. After you have edited your menu, it must be **reloaded** into memory for the changes to take effect. You may be able to do this manually, via the application's control menu (see your product documentation for information). Or, you can have a menu item use the **Reload** function. Otherwise, the menus will be reloaded automatically the next time you execute any menu item. However, if the menus are reloaded automatically, the WIL Interpreter will not be able to determine which menu item you had just selected, and it will therefore display a message telling you that you need to re-select it.

In addition to the standard methods for executing a menu item (double-clicking on it, highlighting it and pressing `Enter`, or using Alt + the underlined letter), you may be able to define optional **hotkeys** for your menu items (depending on the implementation of WIL in the product you are using), which will cause an item to be executed immediately upon pressing the designated hot key. Hotkeys are defined by following the menu item with a backslash (\) and then the hotkey:

```
&Accessories
 &Notepad  \  {F2}
      Run("notepad.exe", "")
 &Calculator  \  ^C
      Run("calc.exe", "")
```

In the above example, the F2 key is defined as the hotkey for Notepad, and Ctrl-C is defined as the hotkey for Calculator.

Most single keys and key combinations may be used as hotkeys, except for the F10 key, and except for Alt and Alt-Shift key combinations (although you may use AltCtrl key combinations). Refer to the **SendKey** function for a list of special keycodes which may also be used as hot keys.

If you always access a menu item by using its hotkey, you may not need or want the menu item to appear in the pull-down menus. If so, you can make it a non-displayed menu item by placing a **@** symbol in front of the title. For example:

```
&Accessories
 @Notepad  \  {F2}
      Run("notepad.exe", "")
```

In this case, Notepad would not appear in the pull-down menus, but could still be accessed by using the F2 hotkey.

Note: Hotkeys and non-displayed menu items may not work in all implementations of the WIL Interpreter.

Menus are defined in a **menu file**. Each menu file consists of one or more lines of menu statements. Each line is terminated with a carriage return / line feed (CRLF) combination, and can be up to 255 characters long.

There are two main parts of a menu file:

The first section, which is optional, is the **initialization** code. This section is executed once when the menu is first loaded and run. It's located before the first **menu item** declaration.

The remainder of the menu file consists of menu item titles and their associated statements. The code under each menu title is executed when the corresponding menu item is selected. Execution begins at the first statement under a menu item and continues up to the definition of the next item.

Menu titles can consist of letters, digits, spaces, punctuation marks in fact any displayable ANSI characters your text editor can create.

There are special characters you can use to modify the appearance of items in the menus.

& Causes the following character to be underlined in the menu item. The user can select the item by pressing the ALT key with the character instead of using the mouse.

| In a main menu, puts this item on a new line.

| In a dropdown menu, this item starts a new column.

_ Used to create a horizontal bar (in dropdown menus only).

@ Causes the item not to be displayed in the menu.

In order to identify a menu item within a WIL statement, each menu item you define has an associated **menu name**. The menu name is built using only the letters and digits that make up the menu title. Menu names are case-*in*sensitive; you don't have to worry about how the actual menu title is capitalized in order to identify it.

For menu items in a **popup** menu, the menu name consists of its parent menu's name, plus the popup menu item's name concatenated at the end.

These menu names are valid as soon as the menu file is loaded, so you can use the menu management functions in the initialization code before the menus even appear.

Top-level menu names must begin in column 1. Submenu names are optional, and if used must begin in column 2-4; each column of indentation represents an additional level of submenu nesting. Actual menu code must begin in column 5 or higher, and must appear directly under the menu name to which it belongs.

Example:

```
Set &User Level
     PW=AskLine ("","Enter your password:", "")
     ;assuming the resident guru's pw is already in WIN.INI:
     RealPW = IniRead ("Our Company", "Tech Guru PW", "")
     if PW==RealPW
            MenuChange("SystemUtilitiesCleanupDir",  @ENABLE)
            MenuChange("SystemUtilitiesEditBatFiles",@ENABLE)
            MenuChange("SystemUtilitiesEditWinIni",  @ENABLE)
            Message ("Access", "You have FULL access")
     else
            MenuChange("SystemUtilitiesCleanupDir",  @DISABLE)
            MenuChange("SystemUtilitiesEditBatFiles",@DISABLE)
            MenuChange("SystemUtilitiesEditWinIni",  @DISABLE)
            Message ("Access", "You have LIMITED access")
     endif

&System Utilities  ;name = "SystemUtilities"
 &Cleanup Dir      ;name = "SystemUtilitiesCleanupDir"
     ...
 &Edit BAT Files...;name = "SystemUtilitiesEditBatFiles"
     ...
 &Edit WIN.INI     ;name = "SystemUtilitiesEditWinIni"
     ...
```

WIL statements are consturcted from constants, variables, operators, functions, commands, and comments.

Each line in a WIL program can be up to 255 Characters long.

See Also:

- Floating Point Constants
- Integer Constants
- String Constants
- Predefined Constants

The software was developed by Morrie Wilson and the gang.

Documentation written by Morrie Wilson, Richard Merit, Jennifer Palonus, Tina Browning and Jim Stiles.

Help file construction by Jim Stiles and Tina Browning.

WIL is a script file interpreter. Before you can do anything useful with the WIL interpreter, you must have at least one WILscript file to interpret.

Your program installation puts several sample scripts into your directory. Suitable icons for these scripts were added to the group in the Windows Program Manager, or to the usual place programs are accessed in your version of Windows.

WIL script files must be formatted as plain text files. You can create them with WinEdit (Wilson WindowWares optional text editor for programmers), the Windows Notepad or another text editor.

Word processors like WordPerfect, AmiPro, and Word can also save scripts in plain text formatted files.

The .WBT (WinBatch) extension is used in this manual for batch file extensions, but, you can use others just as well. If you want to click on a batch file and have Windows run it, be sure that you associate it in Windows with your executable program file. When you installed your program, an association was automatically established between the interpreter and .WBT files.

Each line in a script file contains a statement written in WIL, Wilson WindowWares Windows Interface Language.

A statement can be a maximum of 255 characters long (refer to the WIL Reference Manual for information on the commands). Indentation does not matter. A statement can contain functions, commands, and comments.

You can give each script file a name which has an extension of WBT (e.g. TEST.WBT). We'll use the terms WinBatch script files and WBT files interchangeably.

WIL system utilities are very versatile. They can be run from icons in the Windows Program Manager.

- as automatic execution macros for Windows via the Run= line in the Windows Win.ini file.
- from macros in word processors and spreadsheets.
- from a command line entry such as the File Run... in the Windows Program and File Managers.
- by double clicking or dragging and dropping file names in the Windows File Manager.
- from menu items on the Windows control menu using WinMacro, an accessory program included with WinBatch.
- from other WIL scripts to serve as single or multiple agents, event handlers, or schedulers.
- from any Windows application or application macro language that can execute another Windows program. Software suite macro languages and application builders like Visual Basic and PowerBuilder are examples of these.

WIL utilities run like any other Windows programs. They can run from a command line, an icon in a shell program like the Program Manager in Windows 3.1 and Windows NT, or from a file listing such as the Windows and Windows NT File Managers.

WIL utilities are usually run as files with the extension .WBT. When some WIL utilities are used, they need information passed to them when they run. This is easily done by passing command line parameters to them.

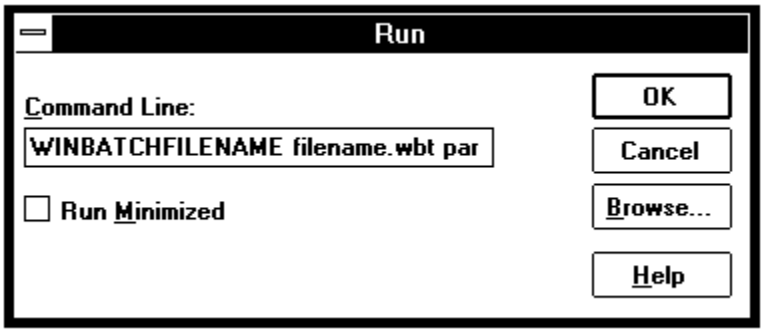
This capability can be used from the command line in the File Run menu items of both the Windows File Manager and the Program Manager. An example dialog is shown below.

Parameters can be also be passed through the command line entry included in the item properties of any icon in Program Manager. Finally, an application can send parameters to a WIL utility it launches from a command line or from a function in a macro language.

A command like this runs a WinBatch system utility from a command line or an icon:

```
WinBatchfilename filename.wbt param1 param2 ... param9
```

This command line can be entered into a Command Line text entry box like this one from Program Manager:



The command line is longer than the dialog can show, but it can be easily edited with the arrow keys.

WINBATCHFILENAME is the generic name of your WinBatch executable. The specific, or actual, name for the WinBatch application will change to reflect the operating system in use: Windows 3.1, Windows 95, and the different Windows NT versions.

"filename.wbt" is any valid WBT file, and is a required parameter.

"p1 p2 ... p9" are optional parameters (there are a maximum of nine of these) to be passed to the WBT file on startup. Each is delimited from the next by one space character.

Use the "Browse" buttons on the main WIL help menu to step through the sections in this tutorial.

A WIL program, like a DOS batch file, is simply a list of commands for the computer to process. Any task which will be run more than once, or which requires entering multiple commands or even a single complex command, is a good candidate for automation as a WIL program. For example, suppose you regularly enter the following commands to start Windows:

First:

```
cd \windows
```

then:

```
win
```

and then:

```
cd \
```

Here, you are changing to the Windows directory, running Windows, and then returning to the root directory. Instead of having to type these three commands every time you run Windows, you can create a DOS batch file, called WI.BAT, which contains those exact same commands:

```
cd \windows
win
cd \
```

Now, to start Windows, you merely need to type the single command **WI**, which runs the WI.BAT batch file, which executes your three commands.

WIL programs work basically the same way.

Our First WIL Program

Our first WIL program will simply run our favorite Windows application: Solitaire. If you are using a menu script-based implementation of the WIL Interpreter, refer to the preceding section on **Menu Files** (see Menu Hotkeys) for instructions on how to create and edit WIL menu items. If you are using a batch file-based implementation of the WIL Interpreter, you will be creating your batch files using an editor, such as **Notepad**, that is capable of saving text in pure ASCII format. In either case, let's create a WIL program containing the following line of text:

```
Run("sol.exe", "")
```

Save the program, and run it (refer to your product documentation, the User's Guide, for information on how to execute a WIL program). Presto! It's Solitaire.

Now, let's look more closely at the line we entered:

```
Run("sol.exe", "")
```

The first part, **Run**, is a WIL function. As you might have guessed, its purpose is to run a Windows program. There are a large number of functions and commands in WIL, and each has a certain syntax which must be used. The correct syntax for all WIL functions may be found in the **WIL Function Reference.** (Introduction) The entry for **Run** starts off as follows:

Syntax:

Run (program-name**,** parameters**)**

Parameters:

(s) program-name = the name of the desired **.EXE**, **.COM**, **.PIF, .BAT** file, or a data file.

(s) parameters = optional parameters as required by the application.

Like all WIL functions, **Run** is followed by a number of **parameters**, enclosed in parentheses. Parameters are simply additional pieces of information which are provided when a particular function is used; they may be either required or optional. Optional parameters are indicated by being enclosed in square brackets. In this case, **Run** has two required parameters: the name of the program to run, and the arguments to be passed to the program.

WIL functions use several types of parameters. Multiple parameters are separated by commas. In the example

```
Run("sol.exe", "")
```

"sol.exe" and **""** are both **string constants**. String constants can be identified by the quote marks which **delimit** (surround) them. You may use either double (**"**), single forward (**'**) or single back (**`**) quote marks as string **delimiters**; the examples in this manual will use double quotes.

Note: In our shorthand method for indicating syntax the **(s)** in front of a parameter indicates that it is a string parameter.

You may have noticed how we said earlier that the two parameters for the **Run** function are *required*, and yet the entry for **Run** in the WIL Function Reference describes the second parameter **"parameters"** as being *optional*. Which is correct? Well, from a WIL language standpoint, the second parameter is required. That is, if you omit it, you will get a syntax error, and your WIL program will not run properly. However, the program that you are running may not need any parameters. Solitaire, for example, does not take any parameters. The way we handle this in our programs is to specify a **null string** two quote marks with nothing in between as the second parameter, as we have done in our example above.

To illustrate this further, let's create a WIL program containing the following line:

```
Run("notepad.exe", "")
```

This is just like our previous file, with only the name of the program having been changed. Save the file, and run it. You should now be in Notepad. Now, edit the WIL program as follows:

```
Run("notepad.exe", "c:\autoexec.bat")
```

Save the program, exit Notepad, and run the WIL program again. You should now be in Notepad, with AUTOEXEC.BAT loaded. As we've just demonstrated, Notepad is an example of a program which can be run with or without a file name parameter passed to it by WIL.

It can often be helpful to add descriptive text to your WIL programs:

```
; This is an example of the Run function in WIL
Run("notepad.exe", "c:\autoexec.bat")
```

The semicolon at the beginning of the first line signifies a **comment**, and causes that line to be ignored. You can place comment lines, and/or blank lines anywhere in your WIL programs. In addition, you can place a comment on the same line as a WIL statement by preceding the comment with a semicolon. For example:

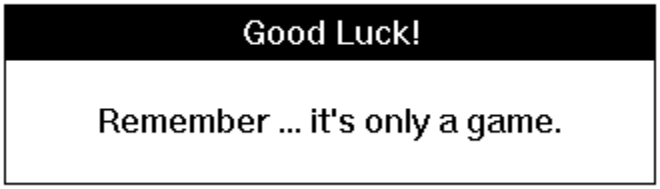
```
Run("sol.exe", "")   ; this is a very useful function
```

Everything to the right of a semicolon is ignored. However, if a semicolon appears in a string delimited by quotes, it is treated as part of the string.

Now, let's modify our original WIL program as follows:

```
; solitare.program
Display(5, "Good Luck!", "Remember ... it's only a game.")
Run("sol.exe", "")
```

And run it. Notice the little dialog box which pops up on the screen with words of encouragement:



That's done by the **Display** function in the second line above. Here's the reference for **Display**:

Syntax:

Display (seconds**,** title**,** text**)**

Parameters:

(i) seconds =	seconds to display the message (1-3600).
(s) title =	Title of the window to be displayed.
(s) text =	Text of the window to be displayed.

Note: The **Display** function has three parameters. The first parameter in our example, 5 is the number of seconds which the display box will remain on the screen (you can make the box disappear before then by pressing any key or mouse button). This is a **numeric constant**, and unlike string constants it does not need to be enclosed in quotes (although it can be, if you wish, as WIL will automatically try to convert string variables to numeric variables when necessary, and vice versa). The second parameter is the title of the message box, and the third parameter is the actual text displayed in the box.

Note: In our shorthand method for indicating syntax the **(s)** in front of a parameter indicates that it is a string. An **(i)** indicates that it is an integer and a **(f)** indicates a floating point number parameter.

Now, exit Solitaire (if you haven't done so already), and edit the WIL program by placing a semicolon at the beginning of the line with the Run function. This is a handy way to disable, or "comment out," lines in your WIL programs when you want to modify and test only certain segments. Your WIL program should look like this:

```
; solitare.program
Display(5, "Good Luck!", "Remember ... it's only a game.")
; Run("sol.exe", "")
```

Now, experiment with modifying the parameters in the **Display** function. Try adjusting the value of the first parameter. If you look up **Display** in the WIL reference section, you will see that the acceptable values for this parameter are **13600**. If you use a value outside this range, WIL will adjust it to "make it fit"; that is, it will treat numbers less than 1 as if they were **1**, and numbers greater than 3600 as **3600**. Also, try using a non-integer value, such as 2.9, and see what happens (it will be converted to an integer). Play around with the text in the two string parameters; try making one, or both, null strings (**""**).

Now, let's look at ways of getting input from a user and making decisions based on that input. The most basic form of input is a simple Yes/No response, and, indeed, there is a WIL function called **AskYesNo**:

Syntax:

AskYesNo (title**,** question**)**

Parameters

(s) title = title of the question box.

(s) question = question to be put to the user.

Returns:

(i) **@YES** or **@NO**, depending on the button pressed.

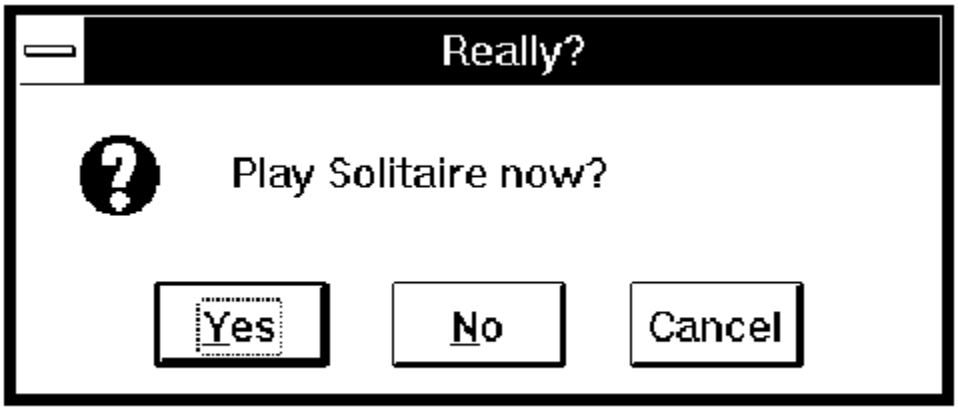
You should be familiar with the standard syntax format by now; it shows us that **AskYesNo** has two required parameters. The **Parameters** section tells us that these parameters both take strings, and tells us what each of the parameters means.

You will notice that there is also a new section here, called **Returns**. This section shows you the possible values that may be returned by this function. *All* functions return values. We weren't concerned with the values returned by the **Run** and **Display** functions. But with **AskYesNo**, the returned value is very important, because we will need that information to decide how to proceed. We see that **AskYesNo** returns an **integer** value. An integer is a whole (non-fractional) number, such as 0, 1, or 2 (the number 1.5 is *not* an integer, it is a floating point number). We also see that the integer value returned by **AskYesNo** is either **@YES** or **@NO**. @YES and @NO are **predefined constants** in WIL. All predefined constants begin with an **@** symbol. You will find a list of all predefined constants in **Appendix A**. Even though the words **Yes** and **No** are strings, it is important to remember that the predefined constants **@YES** and **@NO** are *not* string variables. (Actually, @YES is equal to 1, and @NO is equal to 0. Don't worry if this is confusing; you really don't need to remember or even understand it.)

Now, let's modify our WIL program as follows:

```
AskYesNo("Really?", "Play Solitaire now?")
Run("sol.exe", "")
```

and run it. You should have gotten a nice dialog box which asked if you wanted to play Solitaire:



but no matter what you answered, it started Solitaire anyway. This is not very useful. We need a way to use the Yes/No response to determine further processing. First, we need to explore the concept and use of **variables**.

A **variable** is simply a placeholder for a value. The value that the variable stands for can be either a text string (**string variable**) or a number (**numeric variable**). You may remember from Algebra 101 that if *X=3*, then *X+X=6*. *X* is simply a numeric variable, which stands here for the number *3*. If we change the value of *X* to *4* (*X=4*), then the expression *X+X* is now equal to *8*.

Okay. We know that the **AskYesNo** function returns a value of either @YES or @NO. What we need to do is create a variable to store the value that **AskYesNo** returns, so that we can use it later on in our WIL program. First, we need to give this variable a name. In WIL, variable names must begin with a letter, may contain any combination of letters or numbers, and may be from 1 to 30 characters long. So, let's use a variable called **response**. (We will distinguish variable names in this text by printing them in all lowercase letters; we will print function and command names starting with a capital letter. However, in WIL, the case is not significant, so you can use all lowercase, or all uppercase, or whatever combination you prefer.) We assign the value returned by **AskYesNo** to the variable **response**, as follows:

```
response = AskYesNo("Really?", "Play Solitaire now?")
```

Notice the syntax. The way that WIL processes this line is to first evaluate the result of the **AskYesNo** function. The function returns a value of either @YES or @NO. Then, WIL assigns this returned value to **response**. Therefore, **response** is now equal to either @YES or @NO, depending on what the user enters.

Now, we need a way to make a decision based upon this variable.

WIL provides a way to conditionally execute a statement, and that is by using the **If** ... **Endif** command. Actually, there are several forms of the **If** statement -- the structured form and the single statement form.

Structured Forms

If expression
    series of statements
Endif

If expression
    series of statements
Else
    series of statements
Endif

Single Statement Forms

If expression **Then** statement.

If expression **Then** statement
Else statement

(We refer to **If** ... **Endif** as a **command**, rather than a **function**, because functions are followed by parameters in parentheses, while commands are not. Commands tend to be used to control the WIL interpreter.)

The use of **If** ... **Endif** can easily be illustrated by going back to our WIL program and making these modifications:

```
response = AskYesNo("Really?", "Play Solitaire now?")
If response == @YES
     Run("sol.exe", "")
Endif
```

However, as this example is a single statement, rather than a series of statements, the single statement structure is more appropriate. There are generally many different ways to perform any task in WIL. With experience you will be able quickly decide the best way to do any task.

```
response = AskYesNo("Really?", "Play Solitaire now?")
If response == @YES Then Run("sol.exe", "")
```

In this example, we are using **If** ... **Then** to test whether the value of the variable **response** is @YES. If it *is* @YES, we start Solitaire. If it *isn't* @YES, we don't. The rule is: if the condition following the **If** keyword is true or works out to a non-zero value, then the statement(s) following are performed. If the condition following the **If** keyword is false or works out to a zero value, then the statement(s) following are ignored.

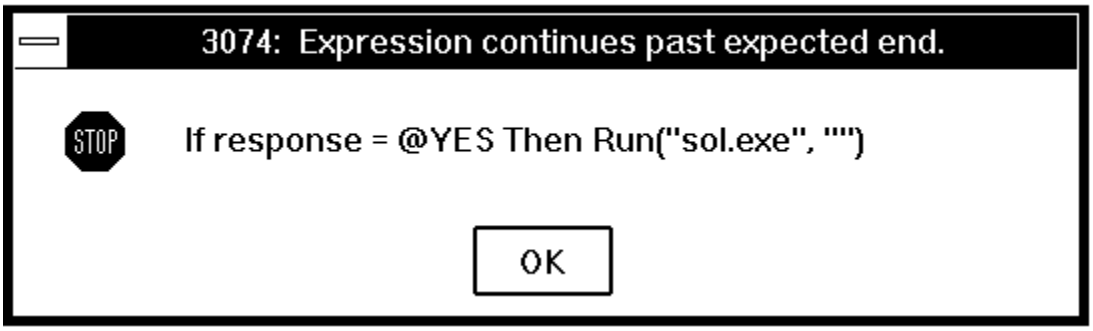
There is something extremely important that you should note about the syntax of these **If** ... **Endif** commands: the double equal signs (**==**). In WIL, a single equal sign (**=**) is an **assignment operator** it assigns the value on the right of the equal sign to the variable on the left of the equal sign. As in:

```
response = AskYesNo("Really?", "Play Solitaire now?")
```

This is saying, in English: "Assign the value returned by the **AskYesNo** function to the variable named **response**." But in the statement:

```
If response == @YES Then Run("sol.exe", "")
```

we do *not* want to assign a new value to **response**, we merely want to test whether it is equal to @YES. Therefore, we use the double equal signs (**==**), which is the **equality operator** in WIL. The statement above is saying, in English: "If the value of the variable named **response** is equal to @YES, then run the program SOL.EXE." If you used a single equal sign (**=**) here by mistake, you would get an error message:



Which is WIL's way of telling you to re-check your syntax.
If you've become confused, just remember that a single equal sign (**=**) is an assignment operator, used to assign a value to a variable. Double equal signs (**==**) are an equality operator, used to test whether the values on both sides of the operator are the same. If you have a problem with one of your WIL programs, make sure to check whether you've used one of these symbols incorrectly. It's a very common mistake, which is why we emphasize it so strongly!

We've seen what happens when the statement(s) following the **If** condition are true. But what happens when the condition is false? Remember we said that when the **If** condition is false, the following statement(s) are ignored. There will be times, however when we want to perform an alternate action in this circumstance. For example, suppose we want to display a message if the user decides that he or she *doesn't* want to play Solitaire. We could write:

```
response = AskYesNo("Really?", "Play Solitaire now?")
If response == @YES
     Run("sol.exe", "")
Else
     Display(5, "", "Game canceled")
Endif
```

Using the single statement **If...Then...Else** structure the same code would look like:

```
response = AskYesNo("Really?", "Play Solitaire now?")
If response == @YES      Then Run("sol.exe", "")
                  Else Display(5, "", "Game canceled")
```

When you have only single statements to execute when conditions are true or false, the single statement form may be preferred. However, what would happen if you had several functions you wanted to perform

if the user answered **Yes**? You would end up with something unwieldy:

```
response = AskYesNo("Really?", "Play Solitaire now?")
If response == @YES Then Display(5, "", "On your mark ...")
If response == @YES Then Display(5, "", "Get set ...")
If response == @YES Then Display(5, "", "Go!")
If response == @YES Then Run("sol.exe", "")
If response == @NO  Then Display(5, "", "Game canceled")
```

Clearly, the best way of handling this is to use the **If... Else... Endif** structured form.

```
response = AskYesNo("Really?", "Play Solitaire now?")
If response == @YES
     Display(5, "", "On your mark ...")
     Display(5, "", "Get set ...")
     Display(5, "", "Go!")
     Run("sol.exe", "")
Else
      Display(5, "", "Game canceled")
Endif
```

The linear flow of statements (executing one statement after another) is not always preferred or possible. WIL provides the standard set of flow control commands: **For**, **While**, **Switch** and **GoSub**. These commands give you the ability to redirect the **flow of control** in your WIL programs.

The **For** command controls the looping of a block of code based on an incrementing index. The **While** command conditionally and/or repeatedly executes a series of statements. The **Switch** statement allows selection among multiple blocks of statements. **GoSub** transfers control to another point in the WIL program and saves the location for a **Return** statement.

Lets explore the use of these commands further. Perhaps you need to break your Solitaire habit by limiting your time of play (it has, by now, become obvious to your boss and co-workers that, ever since you got this program, all you do is play solitaire). First you need to ask yourself how long you would like to play by adding the following line to the top of your script.

```
mins = AskLine("Solitaire", "How many mins do you want to play?", "")
```

This will display a message box which prompts you for the number of minutes you would like to play. Once you enter the desired number of minutes, you could display an additional message as a response to the specific amount of time entered. **Switch**, as you remember, allows selection from among multiple blocks of statements. Each block of statements is called a **case**. In the sample below, there are several case statement blocks. Selection of one of the cases is determined by the number of minutes stored in the variable **mins** . If the number is 3, then case 3 will be executed. All numbers not accounted for will be executed by the default case, **mins**.

```
mins = AskLine("Solitaire", "How many mins do you want to play?", "")
mins = Int(mins)

Switch mins
   case 0
     Display(5, "", "Game canceled")
     exit
     break
   case 1
     Message("Only a minute?", "Wow! You've got willpower.")
     break
   case 2
     Message("2 Minutes?", "This isn't much of a break.")
     break
   case 3
     Message("3 Minutes?", "You're barely got time to shuffle")
     break
   case 4
     Message("HA,HA,HA",  "I dare you to try to beat me.")
     break
   case mins      ;default case - must be last in the switch
     Message("THAT LONG!!!",  "Where did you get all that time?")
     break
EndSwitch

Run("sol.exe", "")
```

In our example, each case statement block is composed of three parts; a **case** statement followed by a number, a series of one or more statements and the **break** command. If the number behind the **case** statement matches the number behind the **switch** statement, then the **case** block is executed. Once the correct message has been displayed, **break** terminates the case block and transfers control to the

EndSwitch statement.

Now we need to create a timer to track the time elapsed and compare it to the time entered. The **While** command, which repeats execution of a series of statements by telling WIL, "Do the following while a condition is present," does this job nicely. First lets set up a couple of variables.

```
goal = mins * 60
timer = 0
```

Now for the **While** statement. The first line sets the condition, "While the **timer** is less than the **goal** execute this series of statements."

```
While timer < goal
     remain = goal - timer
     WinTitle("Solitaire", "Solitaire (%remain% seconds left)")
     Delay(10)
     timer = timer + 10
EndWhile
```

The rest of our series of statements include: a computation of the time remaining (**remain**) to be displayed, a line to display the time remaining in the Solitaire window title bar, a **delay** statement to allow time to pass, and a statement to calculate the time elapsed. EndWhile marks the end of statements. WIL marches through the **While** loop until the variable **timer** exceeds the value of the variable **goal**.

So what happens if suddenly your time is up and youre four moves away from winning? Cant have that happening. We can give ourselves the opportunity to add more time by adding another Askline statement.

```
mins=AskLine("More Time?", "Enter additional minutes.", 0)
```

If a time is entered the timer will need to be used again. Of course, it would be easy to copy that portion of the script and insert it after the new line. However, the same script can be utilized with the assistance of **GoSub**.

GoSub causes the flow of control to go to another point in the WIL program while remembering its point of origin. The name **GoSub** is an abbreviation of "Go To Subroutine". You must specify where you want the flow of control to be transferred -- the subroutine name, and you must mark this point with a **label**. A label is simply a destination address, or marker. The form of the **GoSub** command is:

GoSub label

where **label** is an identifier that you specify. The same rules apply to label names as to variable names (the first character must be a letter, the label name may consist of any combination of letters and numbers, and the label name may be from 1 to 30 characters long). In addition, the label is preceded by a colon (**:**) at the point where it is being used as a destination address.

In our sample script, we move the timing loop to the bottom of the script, add a label marked **:dumdedum** above the timing script as the destination address. After EndWhile, add the statement, **Return** to allow the flow of control to return from the bottom of the **GoSub**.

Well add a **GoSub** statement in after the **Run** statement. The **GoSub** statement is saying, in English "go to the line marked **:dumdedum**, and continue processing from there, but remember where you came from." When **Return** is reached, control will be transferred back to the statement after the original **GoSub**.

Notice that the label **dumdedum** is preceded by a colon as the address, but *not* on the line where it follows the **GoSub** keyword. This is important. Although you can have multiple lines in your WIL program which say **GoSub dumdedum**, you can have only one line marked **:dumdedum** (just like you can have several people going to your house, but can have only one house with a particular address). Of course, you can use many different labels in a WIL program, just as you can use many different

variables, as long as each has a unique name.

In addition to changing the message displayed in the "mins=AskLine" statement, a default time has been added. The value returned will need to be checked. In the example below, "!" signifies "not equal to". Therefore the line reads, "If mins is not equal to zero then GoSub dumdedum."

```
If mins!=0 then GoSub dumdedum
```

If a time is returned, **GoSub** will send execution to the **:dumdedum** label and the waiting process will begin again. After the time has elapsed, control will be returned to the statement following the **GoSub**.

```
Run("sol.exe", "")

GoSub dumdedum

mins=AskLine("More Time?", "Enter additional minutes", 0)
If mins!=0 then GoSub dumdedum


WinClose("Solitaire")
Message("Time's Up", "Get Back to Work!")

Exit

:dumdedum
goal = mins * 60
timer = 0
While timer < goal
     remain = goal - timer
     WinTitle("Solitaire", "Solitaire (%remain% seconds left)")
     Delay(10)
     timer = timer + 10
EndWhile
Return
```

The last thing we want to do is end the program with the **WinClose** function and display a final message.

The **Exit** command is used to keep the processing from "falling through" to the subroutine at the end of the program. In this case, the dumdedum subroutine sits at the end. **Exit** causes a WIL program to end immediately and not fall into the dumdedum loop.

The sample script could be considered complete at this point. However, the **For** command has yet to be discussed. The **For** command is more complex than the previous commands. It controls the looping of a block of code based on an incrementing index. This command is handy if you want to perform a specific code block a particular number of times. The statement says, "Repeat the block of code for each value of a variable from the initial value to the final value, incrementing the variable after each pass of the loop"

In the sample below, the size of the Solitaire window is manipulated and displayed 10 times before the window is zoomed to full screen. Each time the loop is executed, the coordinate and size variables (j and k) are altered, and then used in a **WinPlace** statement (it's time to start looking up functions in the reference yourself now) to affect the position and size of the Solitaire window.

```
Run("sol.exe","")

for i = 0 to 9
     j=100-i*10
     k=300+i*70
     WinPlace(j,j,k,k, "Solitaire")
next

WinZoom("Solitaire")
```

This concludes the first part of our tutorial. You now have the building blocks you need to create useful WIL programs. In the second part, which follows, we will look in more detail at some of the WIL functions which are available for your use.

If you take a moment and flip through the WIL Function Reference that takes up most of the back of this manual, you will notice that WIL uses a very convenient naming convention. WIL functions are named so that the object affected by the function is the first word in the function name -- any function dealing with Files starts with the word "File", and they can be found clumped together in the alphabetically arranged function reference. If you think you might want a function dealing with DDE, simply flip open the manual to the DDE section and scan the available functions.

What follows is just quick overview of the many functions and commands available in WIL. These should be sufficient to begin creating versatile and powerful WIL programs. For complete information on these and all WIL functions and commands, refer to the **WIL Function Reference** (see Introduction).

There are several functions that you can use to start an application, most of which share a common syntax. To name a few:

Run (**program-name**, **parameters**)

We've already seen the **Run** function. This function starts a program in a "normal" window. Windows, or the application itself, decides where to place the application's window on the screen.

Example:

```
Run("notepad.exe", "myfile.txt")
```

If the program has an EXE extension, its extension may be omitted:

```
Run("notepad", "myfile.txt")
```

Also, you can "run" data files if they have an extension in WIN.INI which is associated with an executable program. So, if TXT files are associated with Notepad:

```
Run("myfile.txt", "")
```

would start Notepad, using the file MYFILE.TXT.

When you specify a file to run, WIL looks first in the current directory, and then in the directories on your system path. If the file is not found, WIL will return an error. You can also specify a full path name for WIL to use, as in:

```
Run("c:\windows\apps\winedit.exe", "")
```

RunZoom (program-name, parameters)

RunZoom is like **Run**, but starts a program as a full-screen window.

Example:

```
RunZoom("excel", "bigsheet.xls")
```

RunIcon (**program-name**, **parameters**)

RunIcon starts a program as an icon at the bottom of the screen.

Example:

```
RunIcon("clock", "")
```

All these Run functions simply launch the program and continue with WIL processing. If you need to wait until the program exits before continuing, then there are a number of other suitable functions also available.

RunWait (**program-name**, **parameters**)

RunWait starts a program and waits for it to exit before continuing.

RunZoomWait (**program-name**, **parameters**)

RunZoomWait starts a program as a full screen window and waits for it to exit before continuing.

RunIconWait (**program-name**, **parameters**)

RunIconWait starts a program as an icon at the bottom of the screen and waits for it to exit before continuing.

If all these Run functions are too much for you, there is also the combination **RunShell** function, which combines all the capabilities of the Run functions and adds additional capability.

RunShell **(program-name, parameters, working dir, view, waitflag)**

RunShell is an advanced form of the Run function that even allows the specification of a working directory, along with the window view mode and whether or not to wait for completion of the run program in a single function.

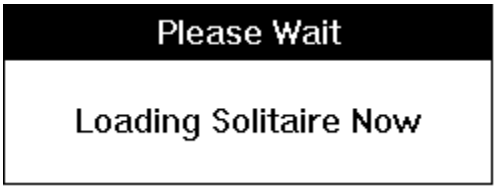
Here we have functions which display information to the user and prompt the user for information, plus a couple of relevant system functions.

Display (**seconds**, **title**, **text**)

Displays a message to the user for a specified period of time. The message will disappear after the time expires, or after any keypress or mouse click.

Example:

```
Display(2, "Please wait", "Loading Solitaire now")
```



Message (**title**, **text**)

This command displays a message box with a title and text you specify, which will remain on the screen until the user presses the **OK** button.

Example:

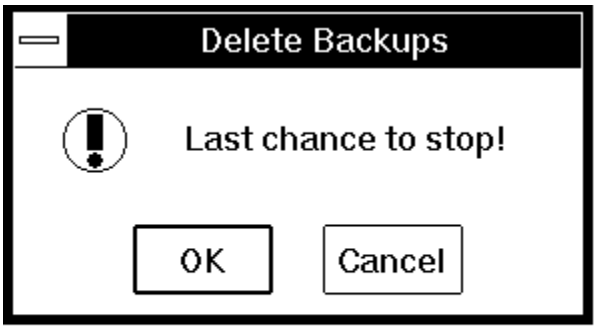
```
Message("Sorry", "That file cannot be found")
```

Pause (**title**, **text**)

This command is similar to Message, except an exclamation-point icon appears in the message box, and the user can press **OK** or **Cancel**. If the user presses **Cancel**, the WIL program ends (or goes to the label **:cancel**, if one is defined).

Example:

```
Pause("Delete Backups", "Last chance to stop!")
; if we got this far, the user pressed OK
FileDelete("*.bak")
```

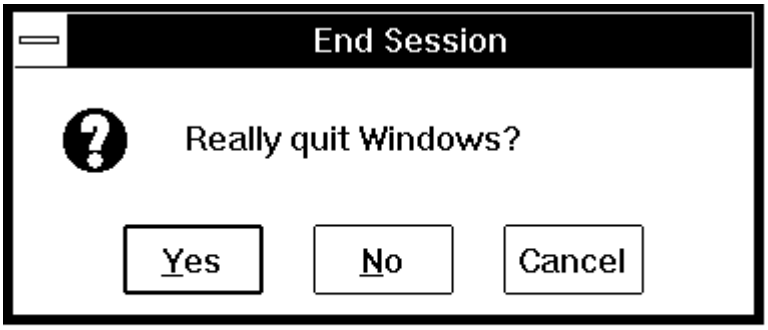


AskYesNo (**title**, **question**)

Displays a dialog box with a given title, which presents the user with three buttons: **Yes**, **No**, and **Cancel.** If the user presses **Cancel**, the WIL program ends (or goes to the label **:cancel**, if one is defined). Otherwise, the function returns a value of @YES or @NO.

Example:

```
response = AskYesNo("End Session", "Really quit Windows?")
```

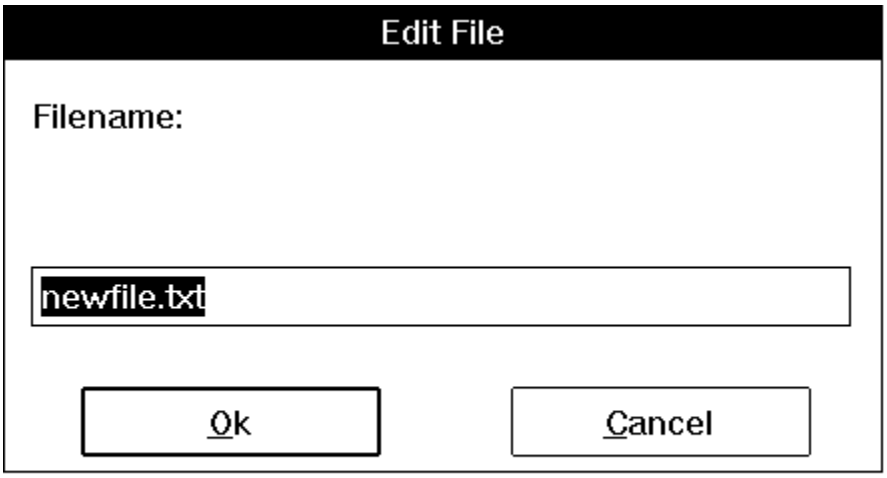


AskLine (**title**, **prompt**, **default**)

Displays a dialog box with a given title, which prompts the user for a line of input. Returns the default if the user just presses the **OK** button.

Example:

```
yourfile = AskLine("Edit File", "Filename:", "newfile.txt")
Run("notepad", yourfile)
```



If you specify a **default** value (as we have with NEWFILE.TXT), it will appear in the response box, and will be replaced with whatever the user types. If the user doesn't type anything, the default is used.

Beep

Beeps once.

```
Beep
```

And if *one* beep isn't enough for you:

```
Beep
Beep
Beep
```

TimeDelay (**seconds**)

Pauses WIL program execution.

The **TimeDelay** function lets you suspend processing for a fixed period of time, which can be anywhere from 1 to 3600 seconds.

There are a large number of functions which allow you to manage the windows on your desktop. Here are some of them:

WinZoom (**partial-windowname**)

Maximizes an application window to full-screen.

WinIconize (**partial-windowname**)

Turns an application window into an icon.

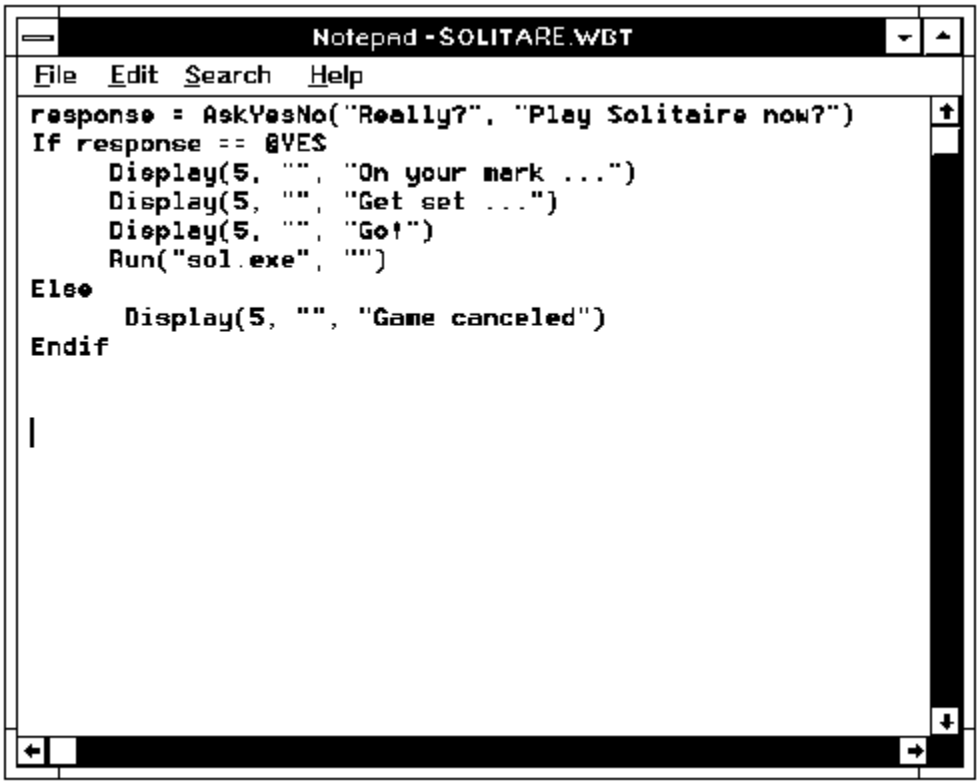
WinShow (**partial-windowname**)

Shows a window in its "normal" state.

These three functions are used to modify the size of an already-running window. **WinZoom** is the equivalent of selecting **Maximize** from a window's control menu, **WinIconize** is like selecting **Minimize**, and **WinShow** is like selecting **Restore**.

The window on which you are performing any of these functions does not have to be the active window. If the specified window is in the background, and a **WinZoom** or **WinShow** function causes the size of the window to change, then the window will be brought to the foreground. The **WinZoom** function has no effect on a window which is already maximized; likewise, **WinShow** has no effect on a window which is already "normal."

Each of these functions accepts a **partial windowname** as a parameter. The windowname is the name which appears in the title bar at the top of the window. You can specify the full name if you wish, but it may often be advantageous not to have to do so. For example, if you are editing the file SOLITARE.WBT in a Notepad window, the windowname will be **Notepad - SOLITARE.WBT.**



You probably don't want to have to hard-code this entire name into your WIL program as:

```
WinZoom("Notepad - SOLITARE.WBT")
```

Instead, you can specify the partial windowname "Notepad":

```
WinZoom("Notepad")
```

If you have more than one Notepad window open, WIL will use the one which was most recently used or started.

Note that WIL matches the partial windowname beginning with the first character, so that while

```
WinZoom("Note")
```

would be correct,

```
WinZoom("pad")
```

would not result in a match.

Also, the case (upper or lower) of the title is significant, so

```
WinZoom("notepad")
```

would not work either.

WinActivate (**partial-windowname**)

Makes an application window the active window.

This function makes a currently-open window the active window. If the specified window is an icon, it will be restored to normal size; otherwise, its size will not be changed.

WinClose (**partial-windowname**)

Closes an application window.

This is like selecting **Close** from an application's control menu. You will still receive any closing message(s) that the application would normally give you, such as an "unsaved-file" dialog box.

WinExist (**partial-windowname**)

Tells if a window exists.

This function returns @TRUE or @FALSE, depending on whether a matching window can be found. This provides a way of insuring that only one copy of a given window will be open at a time.

If you've been following this tutorial faithfully from the beginning, you probably have several copies of Solitaire running at the moment. (You can check by pressing **Ctrl-Esc** and bringing up the Task Manager. You say you've got *five* Solitaire windows open? Okay, close them all.) Now, let's modify our WIL program. First, trim out the excess lines so that it looks like this:

```
Run("sol.exe", "")
```

Now, let's use the **WinExist** function to make sure that the WIL program only starts Solitaire if it isn't already running:

```
If WinExist("Solitaire") == @FALSE Then Run("sol.exe", "")
```

And this should work fine. Run the WIL program twice now, and see what happens. The first time you run it, it should start Solitaire; the second (and subsequent) time, it should not do anything.

However, it's quite likely that you want the WIL program to do *something* if Solitaire is already running namely, bring the Solitaire window to the foreground. This can be accomplished by using the **WinActivate** function as follows:

```
If WinExist("Solitaire") == @TRUE
     WinActivate("Solitaire")
Else
     Run("sol.exe", "")
Endif
```

Note that we can change this to have **WinExist** check for a **False** value instead, by modifying the structure of the WIL program:

```
If WinExist("Solitaire") == @FALSE
     Run("sol.exe", "")
Else
     WinActivate("Solitaire")
Endif
```

Either format is perfectly correct, and the choice of which to use is merely a matter of personal style. The result is exactly the same.

EndSession ( )

Ends the current Windows session.

This does exactly what it says. It will not ask any questions (although you will receive any closing messages that your currently-open windows would normally display), so you may want to build in a little safety net:

```
sure = AskYesNo("End Session", "Really quit Windows?")
If sure == @YES Then EndSession()
```

EndSession is an example of a WIL function which does not take any parameters, as indicated by the empty parentheses which follow it. The parentheses are still required, though.

DirChange (**pathname**)

Changes the directory to the pathname specified.

Use this function when you want to run a program which must be started from its own directory. "Pathname" may optionally include a drive letter.

Example:

```
DirChange("c:\windows\winword")
Run("winword.exe", "")
```

DirGet ( )

Gets the current working directory.

This function is especially useful in conjunction with **DirChange**, to save and then return to the current directory.

Example:

```
origdir = DirGet()
DirChange("c:\windows\winword")
Run("winword.exe", "")
DirChange(origdir)
```

FileExist (**filename**)

Determines if a file exists.

This function will return @TRUE if the specified file exists, and @FALSE if it doesn't exist.

Example:

```
If FileExist("win.bak") == @FALSE
     FileCopy("win.ini",        "win.bak", @FALSE)
endif
Run("notepad.exe", "win.ini")
```

FileCopy (**from-list**, **to-file**, **warning**)

Copies files.

If **warning** is @TRUE, WIL will pop up a dialog box warning you if you are about to overwrite an existing file, and giving you an opportunity to change your mind, along with selecting various options for copying the files. If **warning** is @FALSE, it will overwrite existing files with no warning.

Example:

```
FileCopy("win.ini", "*.sav", @TRUE)
Run("notepad.exe", "win.ini")
```

The asterisk (*****) is a **wildcard** character, which matches any letter or group of letters in a file name. In this case, it will cause WIN.INI to be copied as WIN.SAV.

FileDelete (**file-list**)

Deletes files.

Example:

```
If FileExist("win.bak") == @TRUE Then FileDelete("win.bak")
```

FileRename (**from-list**, **to-file**)

Renames files to another set of names.

We can illustrate the use of these WIL program functions with a typical WIL application. Let's suppose that our word processor saves a backup copy of each document, with a BAK extension, but we want a larger safety net when editing important files. We want to keep the five most recent versions of the wonderful software manual we're writing. Here's a WIL program to accomplish this:

```
If FileExist("wil.bak") == @TRUE
     FileDelete("wil.bk5")
     FileRename("wil.bk4", "wil.bk5)
     FileRename("wil.bk3", "wil.bk4)
     FileRename("wil.bk2", "wil.bk3)
     FileRename("wil.bk1", "wil.bk2)
     FileRename("wil.bak", "wil.bk1)
Endif
Run("winword.exe", "wil.doc")
Exit
```

If the file WIL.BAK exists, it means that we have made a change to WIL.DOC. So, before we start editing, we delete the oldest backup copy, and perform several **FileRename** functions, until eventually WIL.BAK becomes WIL.BK1.

However, this still isn't quite right. What would happen if the file WIL.BK5 didn't exist? In the DOS batch language, we would get an error message, and processing would continue. But in WIL, the error would cause the WIL program to terminate resulting in a message resembling the following:

There are two ways that we can handle this. We could use an **If FileExist** test before every file operation, and test the returned value for a @TRUE before proceeding. But this is clumsy, even with such a small WIL program, and would become unwieldy with a larger one.

Luckily, there is a WIL system function to help us here: **ErrorMode**. The **ErrorMode** function lets you decide what will happen if an error occurs during WIL processing. Here's the syntax:

ErrorMode (**mode**)

Specifies how to handle errors.

Parameters:

(i) mode = **@CANCEL**, **@NOTIFY**, or **@OFF**.

Returns:

(i) previous error setting.

Use this command to control the effects of runtime errors. The default is **@CANCEL**, meaning the execution of the WIL program will be canceled for any error.

@CANCEL: All runtime errors will cause execution to be canceled. The user will be notified which error occurred.

@NOTIFY: All runtime errors will be reported to the user, and they can choose to continue if it isn't fatal.

@OFF: Minor runtime errors will be suppressed. Moderate and fatal errors will be reported to the user. User has the option of continuing if the error is not fatal.

As you can see, the default mode is @CANCEL, and it's a good idea to leave it like this. However, it is quite reasonable to change the mode for sections of your WIL program where you anticipate errors occurring. This is just what we've done in our modified WIL program:

```
If FileExist("wil.bak") == @TRUE
     ErrorMode(@OFF)
     FileDelete("wil.bk5")
     FileRename("wil.bk4", "wil.bk5)
     FileRename("wil.bk3", "wil.bk4)
     FileRename("wil.bk2", "wil.bk3)
     FileRename("wil.bk1", "wil.bk2)
     FileRename("wil.bak", "wil.bk1)
     ErrorMode(@CANCEL)

Endif

Run("winword.exe", "wil.doc")
Exit
```

Notice how we've used **ErrorMode(@OFF)** to prevent errors in the **If** statement section from aborting the WIL program, and then used **ErrorMode(@CANCEL)** at the end of the that section to change back to the default error mode. This is a good practice to follow.

Note: Pay close attention when suppressing errors with the **ErrorMode** function. When an error occurs, the processing of the ENTIRE line is canceled. Setting the **ErrorMode()** to @OFF or @NOTIFY allows execution to resume at the next line. **Various parts of the original line may have not been executed**.

e.g.

```
ErrorMode(@OFF)
; The FileCopy will cause a file not found error,
; canceling the execution of the whole line.
; The variable A is set to @FALSE by default
     A = FileCopy( "xxxxxxxxx", "*.*", @FALSE)
;
;
; Now there is a NOT symbol in front of the FileCopy.
; Nonetheless, if an error occurs A is still set to @FALSE
; not @TRUE as might be assumed.  When an error is suppressed
; with ErrorMode the line is canceled, and any assignment is
; simply set to the default @FALSE value.
;
     A =  !FileCopy("yyyyyyyyy", "*.*", @FALSE)
```

For this reason, **ErrorMode()** must be used with a great deal of care. The function for which the errors are being suppressed should be isolated from other functions and operators as much as possible.

e.g.

```
; INCORRECT  USAGE of ErrorMode()
; In this instance, when the copy has an error, the entire if
; statement is canceled.
; Execution begins (erroneously) at the next line, and states
; that the copy succeeded.  Next a fatal error occurs as the
; "else" is found, since it does not have a matching if

ErrorMode(@OFF)
if FileCopy(file1,file2,@FALSE) == @TRUE
     Message("Info", "Copy worked")
else
     Message("Error", "Copy failed")
endif


; CORRECT USAGE
; In this case, the FileCopy is isolated from other statements
; and flow control logic.  When the statement fails, execution
; can safely begin at the next line.  The variable "a" will
; contain the default value of zero that a failed assignment
; returns.
; Results are not confused by the presence of other operators.
;
ErrorMode(@FF)
a = FileCopy(file1,file2,@FALSE)
ErrorMode(@CANCEL)
if   a == @TRUE
     Message("Info", "Copy worked")
else
     Message("Error", "Copy failed")
endif
```

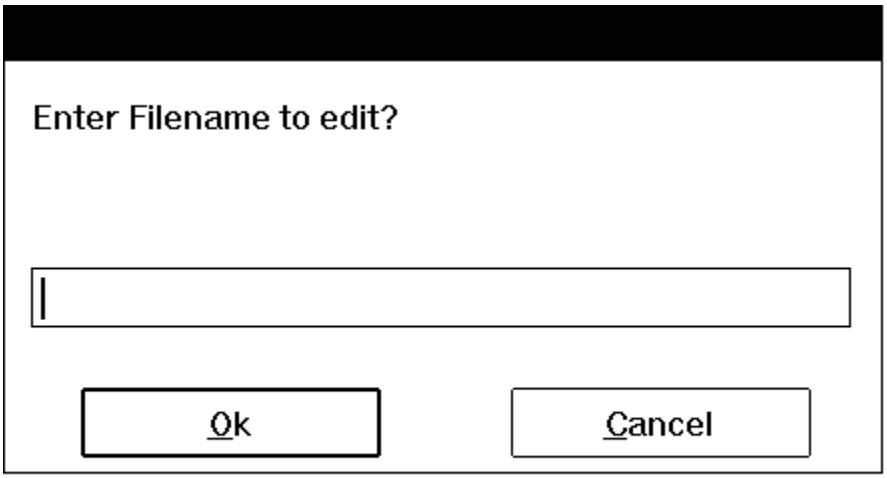
So far, whenever we have needed to use a file name, we've hard-coded it into our WIL programs. For example:

```
Run("notepad.exe", "agenda.txt")
```

Naturally, there should be a way to get this information from the user "on the fly", so that we wouldn't have to write hundreds of different WIL programs. And there is a way. Three or four ways, actually. Consider, first, a function that we have already seen, **AskLine**:

```
file = AskLine("", "Enter Filename to edit?", "")
Run("notepad.exe", file)
```

This will prompt for a filename, and run Notepad on that file:



There are only three problems with this approach. First, the user might not remember the name of the file. Second, the user might enter the name incorrectly. And finally, modern software is supposed to be sophisticated and user-friendly enough to handle these things the *right* way. And WIL certainly can.

There are several functions we can use for an improved file selection routine.

FileItemize (file-list**)**

DirItemize (dir-list**)**

Nicer File Selection - The Dialog Editor

Nicer Messages - using CRLF's

WIL can run DOS programs, just like it runs Windows programs:

```
DirChange("c:\game")
Run("scramble.exe", "")
```

If you want to use an internal DOS command, such as **DIR** or **TYPE**, you can do so by running the DOS command interpreter, COMMAND.COM, with the **/c** program parameter, as follows:

```
Run("command.com", "/c type readme.txt")
```

Everything that you would normally type on the DOS command line goes after the **/c** in the second parameter. Here's another example:

```
Run("command.com", "/c type readme.txt | more")
```

These examples assume that COMMAND.COM is in a directory on your DOS path. If it isn't, you could specify a full path name for it:

```
Run("c:\command.com", "/c type readme.txt | more")
```

Or, better still, you could use the WIL **Environment** function.

Environment (**env-variable**)

Gets a DOS environment variable.

Since DOS always stores the full path and filename of the command processor in the DOS environment variable **COMSPEC**, it is an easy matter to retrieve this information:

```
coms = Environment("COMSPEC")
```

and use it in our WIL program:

```
coms = Environment("COMSPEC")
Run(coms, "/c type readme.txt")
```

To get a DOS window, just run COMMAND.COM with no parameters:

```
coms = Environment("COMSPEC")
Run(coms, "")
```

Here we come to one of the most useful and powerful features of WIL: the ability to send keystrokes to your programs, just as if you were typing them directly from the keyboard.

SendKeysTo (partial-window-name, character-codes)

Activates the specified window and sends keystrokes to it.

This is an ideal way to make the computer automatically type the keystrokes that you enter every time you start a certain program. For example, to start up Notepad and have it prompt you for a file to open, you would use:

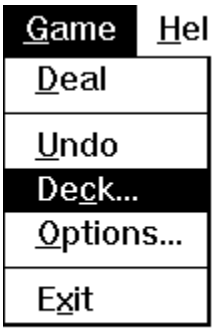
```
Run("notepad.exe", "")
SendKeysTo("Notepad", "!fo")
```

The parameters you specify for **SendKeysTo** are the window-name (or at least the first unique part of it), and the string that you want sent to the program. This string consists of standard characters, as well as some special characters which you will find listed under the entry for **SendKey** in the **WIL Function Reference** (see SendKey). In the example above, the exclamation mark (**!**) stands for the **Alt** key, so **!f** is the equivalent of pressing and holding down the **Alt** key while simultaneously pressing the **F** key. The **o** in the example above is simply the letter **O**, and is the same as pressing the **O** key by itself:

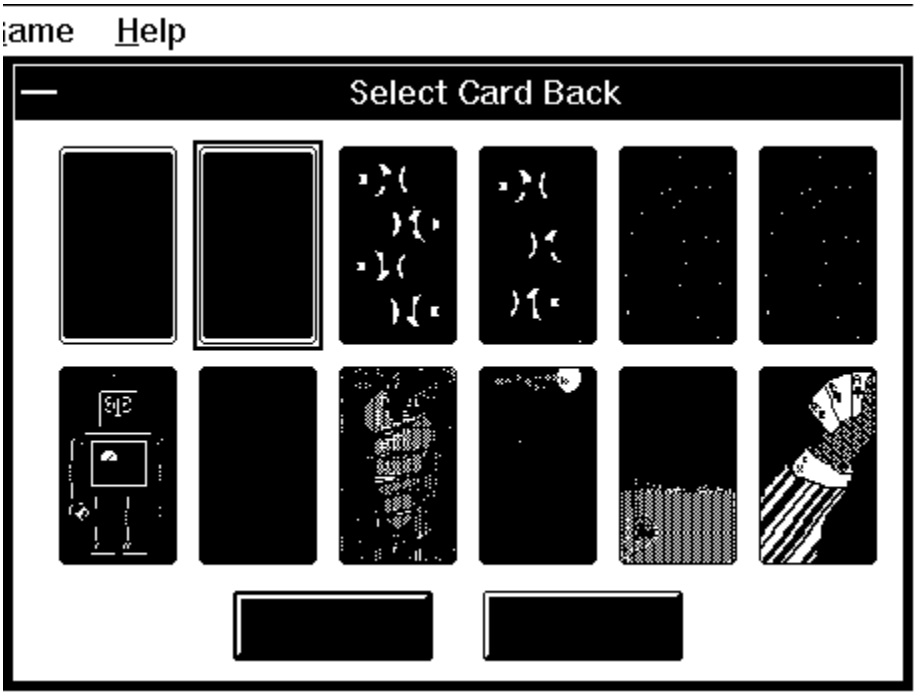
Here's another example:

```
RunZoom("sol.exe", "")
SendKeysTo("Solitaire", "!gc{RIGHT}{SP}~")
```

This starts up Solitaire, brings up the **Game** menu (**!g**), and selects **Deck** (**c**) from that menu:



Then it moves the cursor to the next card back style on the right (**{RIGHT}**), selects that card back (**{SP}**), and then selects **OK** (**~**). (The tilde sign (~) is SendKey shorthand for the enter key.



And *walla*! A different card design every time you play!

Here is the final working version of the WIL program that we've slowly been building throughout this tutorial:

```
; sol.wbt
mins = AskLine("Solitaire", "How many mins do you want to play?", "")
Switch mins
   case 0
     Display(5, "", "Game canceled")
     exit
     break
   case 1
     Message("Only a minute?", "Wow! You've got willpower.")
     break
   case 2
     Message("2 Minutes?", "This isn't much of a break.")
     break
   case 3
     Message("3 Minutes?", "You're barely got time to shuffle")
     break
   case 4
     Message("HA,HA,HA",  "I dare you to try to beat me.")
     break
   case mins      ;default case - must be last in the switch
     Message("THAT LONG!!!",  "Where did you get all that time?")
     break
EndSwitch
If WinExist("Solitaire") == @TRUE
     WinActivate("Solitaire")
     WinShow("Solitaire")
Else
     Run("sol.exe", "")
Endif

for i = 0 to 9
     j=100-i*10
     k=300+i*70
     WinPlace(j,j,k,k,"Solitaire")
next

WinZoom("Solitaire")

SendKeysTo("Solitaire", "!gc{RIGHT}{SP}~")

GoSub dumdedum

mins=AskLine("More Time?", "Enter additional minutes", 0)
If mins!=0 then GoSub dumdedum


while WinExist("Solitaire")
     WinClose("Solitaire")            ;Make sure it closes
endwhile
Message("Time's Up", "Get Back to Work!")
Exit
```

```
:dumdedum
goal = mins * 60
timer = 0
While timer < goal
     remain = goal - timer
     if WinExist("Solitaire")
          WinTitle("Solitaire", "Solitaire (%remain% seconds left)")
     else
          exit
     endif
     Delay(10)
     timer = timer + 10
EndWhile
Return
```

It incorporates many of the concepts that we've discussed so far, as well as using some arithmetic (*****, **-**, **+**) and relational (**<**) operators that are covered in the section on Operators.

It can also be improved and customized in a number of ways, but we'll leave that up to you.

If you can understand and follow the structures and processes illustrated in this sample file, and can begin to incorporate them into your own WIL programs, you are well on your way to becoming a true WIL guru!

This section covers some miscellaneous items, of a more advanced nature.

If the user presses the **Cancel** button (in most any dialog which has one), the label **:CANCEL** will be searched for in the WIL program, and, if found, control will be transferred there. If no label **:CANCEL** is found, processing simply stops.

This allows the program developer to perform various bits of cleanup processing after a user presses **Cancel**.

A currently-executing WIL program can be terminated immediately by pressing the **<CtrlBreak>** key combination. You may need to hold it a second or two. IntControl(12,...) can be used to suppress the ability of the user to terminate the batch file. One would suggest the batch file is completely debugged before doing this.

A commonly asked question is, "How do I get my long lines to wrap to the next line?". One way, besides using the built in @crlf and @tab string constants is to use the functions **Num2Char** or **StrCat** to accomplish this.

Example:

```
cr=Num2Char(13)    ; 13 is a carriage-return
lf=Num2Char(10)    ; 10 is a line feed
Message("", "This is line one %cr% %lf% This is line two")
```

or...

```
cr=Num2Char(13)
lf=Num2Char(10)
crlf=StrCat(cr, lf)
Message("", "This is line one %crlf% This is line two")
```

Note: @crlf and @tab are explained in more detail in the WIL Tutorial section under the heading **Nicer Messages**.

The **Run** function (and most of the related members of the **Run...** family of functions) allow you to run a data file if it is associated with a program via the [Extensions] section of the WIN.INI file. You can also (optionally) create a special default program entry in that section, as follows:

*=program.exe

where an asterisk is used instead of a file extension. Then, if you try to run a data file whose extension is not specified in [Extensions], WIL will run "program.exe." Even though the customary **^.ext** is not included in the example line above, WIL will pass the name of the data file as a command-line parameter to "program.exe."

The **RunShell** function, on the other hand, being a more modern implementation of the WIL Run functions, references the Windows registration database to determine data file associations. It does not support running programs with unknown extensions.

Windows provides three major ways to launch applications, known as the **WinExec**, **LoadModule**, and **ShellExecute** Application Program Interfaces (API's). Most of the **Run** family of functions use the **WinExec**, **RunEnviron** uses **LoadModule**, and **RunShell** uses the ShellExecute API's.

In 32 bit versions of WIL, the **CreateProgram** function is used instead.

This information is offered as background knowledge, as certain badly behaved applications may prefer to be launched from one type of API rather than another. In particular, if an application has a tendency to crash after being launched by a **Run** function, try using the **RunShell** function instead.

WIL has a handy debug utility which comes with the WIL Interpreter. When Debug is initialized, a dialog box which controls the execution of each statement is displayed. Debug works line by line through the script, displaying the current statement, its value and the following statement. The script will also be executed in conjunction with the display of statements. Initialize Debug by adding Debug(1) or Debug(@ON) to a specific point in your script.

Note: For specific instructions see **Debug** in the **WIL Function Reference.**

WinBatch has several Internal Control functions, **IntControl**, which permit numerous internal operations. If you are having trouble finding a specific command, you may find a solution here. For example, **IntControl** can perform a warm boot, restart windows and control whether a file list box has to return a file name. Check out the versatility of **IntControl** in the **WIL Function Reference.**

Those WIL functions which take a partial windowname as a parameter can be directed to accept only an exact match by ending the window name with a tilde (**~**).

A tilde (**~**) used as the first character of the window name will match any window containing the specified string anywhere in its title. For example, **WinShow("~Notepad")** will match a window title of "(Untitled) - Notepad" and a window title of "My Notepad Application", as well as a window title of "Notepad - (Untitled)".

A tilde (**~**) used as the last character of the window name indicates that the name must match the window title through to the end of the title. For example, **WinShow("Note~")** would only match a window whose title was "Note"; it would **not** match "Notepad". Furthermore, **WinShow("~Notepad~")** will match a window title of "Notepad" and a window title of "(Untitled) -Notepad", but will **not** match a window title of "Notepad - (Untitled)".

When using partial windownames as parameters, you can specify the full name if you wish, but in most circumstances, it isn't necessary. Remember that the case (upper or lower) of the title is significant. If the case is not correct, a match will not be made.

The "device=" lines in the System.ini cannot be edited using the normal **IniWritePvt** function. See **BinaryPokeStr** for a complete example of how to write "device=" lines into the System.ini.

This example might not work exactly how you think it will. If you take two integers for example 32 and 37 and divide 32 by 37, you will not necessarily get a floating point answer. This integer divide will result in an answer of 0. Add 0.0 to one of the numbers to get a true floating point answer.

Example:

```
;;Problem.wbt

a1=  "An unexpected problem can occur when dividing numbers."
a2=  "The problem is in deciding between an integer divide "
a3=  "(where the remainder, if any, is discarded) and a floating"
a4=  " point divide (where a floating point number is returned)."

a5=  ""
a6=  ""
a7=  "Let's assume a test.  There are 42 questions."
a8=  "A student gets 37 of them correct,"
a9=  "what is the student's score."
a10= " "
a11= "iQuestions = 42"
a12= "iCorrect = 37"
a13= "Score = iCorrect / iQuestions"

iQuestions = 42
iCorrect = 37
Score = iCorrect / iQuestions

a14= " "
a15= "The unexpected result is that the score is %Score%"
a16= "Reasonable problem?  The trap is that WIL will perform an"

a17= "integer divide and return the unexpected answer of Zero."
a18= " "
a19= "To dig your code out of this trap, simply use floating point"
a20= "numbers when you want a floating point answer."
a21 = " "
a22= "fQuestions = 42.0"
a23= "fCorrect = 37.0"


fQuestions = 42.0
fCorrect = 37.0
Score = fCorrect / fQuestions
```

```
a24= "Score = fCorrect / fQuestions"
a25= "The correct score  is %Score%"
a26= " "
a27= "Or make the answer look nicer by using the Decimals function"
a28= "and a little formatting."
a29= ""
a30= "Decimals(0)
a31= "Score=Score*100"
Decimals(0)
Score=Score*100
a32= ""
a33= "The correct score  is %Score%%%"

text=""
for i=1 to 15
   text=strcat(text,a%i%,@crlf)

next

text2=""
for i=16 to 33
   text2=strcat(text2,a%i%,@crlf)
next

Message("Integer Divide Problem",text)
Message("Floating point solution",text2)
```

In order to support long file names in Windows NT and Windows 95, which can contain embedded spaces, we have changed the default file delimiter, used to delimit lists of files and directories, to a TAB in the 32-bit version of WIL. In the 16-bit version of WIL, the default delimiter has not changed, and remains a space.

Note that this is the "default" file delimiter. We have added the ability to change the file delimiter to a character of your own choosing, using the new IntControl 29.

The most important functions affected by this change are:

DirItemize

DiskScan

FileItemize

which now return lists delimited by the current file delimiter character.

The following functions, which take file or directory lists as input parameters, now expect the lists to be delimited by the current file delimiter character. However, they now also accept lists delimited with a TAB or a vertical bar ("|", which may be easier to code in a WIL script):

DirItemize	FileAttrSet	FileMove	FileTimeTouch
DirRemove	FileCopy	FileRename	
DiskFree	FileDelete	FileSize	
FileAppend	FileItemize	FileTimeSet	

Note that DiskFree will continue to accept space-delimited lists as input.

If you have Windows Multimedia extensions, and hardware capable of playing WAV waveform files, there will be sounds audible at various points in the execution of WIL programs. By default, these sounds are enabled. If you want sounds to be off by default, enter the line:

Sounds=0

in the [Main] section of the WWWBATCH.INI file.

You can also use the **Sounds** function to turn sounds on and off from within a WIL program.

If you add to the [Sounds] section of your WIN.INI file a line such as:

StartProgram=CHIMES.WAV,Program Launch

then the WIL Interpreter will make sounds whenever a new program is launched. One of our developers is particularly enamored with the "BEAMUP.WAV" file available on various on-line services.

Floating Point constants are built from the digits **0** through **9,** the plus and minus signs**,** a period **.** and the letter **E**. They can range in magnitude from negative to positive 1.0E+300 (a *very* large number). Constants larger than these permissible magnitudes will produce unpredictable errors. Floating point constants must begin with a digit.

Examples of floating point constants.

```
3.14159
-8.92E-45
0.0001724
8.95e294
```

Integer constants are built from the digits **0** through **9**. They can range in magnitude from negative to positive 231 - 1 (approximately two billion). Constants larger than these permissible magnitudes will produce unpredictable results.

Examples of integer constants:

```
1
-45
377849
-1999999999
```

String constants are comprised of displayable characters bounded by quote marks. You can use double quotes (**"**), single quotes (**'**), or back quotes (`) to enclose a string constant, as long as the same type of quote is used to both start and end it. If you need to embed the delimiting quote mark inside the string constant, use the delimiting quote mark twice.

Examples of string constants:

```
"a"
`Betty Boop`
"This constant has an embedded "" mark"
'This constant also has an embedded " mark'
```

The programming language has a number of built-in integer constants that can be used for various purposes. These start with the **@**-sign, and are **case-insensitive**.

Some predefined constants:

@FALSE

@NO

@STACK

@TILE

@TRUE

@YES

A list of all the predefined constants can be found in **Appendix A**

Identifiers are the names supplied for variables, functions, and commands in your program.

An identifier is a sequence of one or more letters or digits that begins with a letter. Identifiers may have up to 30 characters.

All identifiers are *case insensitive*. Upper-case and lower-case characters may be mixed at will inside variable names, commands or functions.

For example, these statements all mean the same thing:

```
AskLine(MyTitle, Prompt, Default)
ASKLINE(MYTITLE, PROMPT, DEFAULT)
aSkLiNe(MyTiTlE, pRoMpT, dEfAuLt)
```

A variable may contain an integer, a floating point number, a string, a list, or a string representing an integer or a floating point number . Automatic conversions between numbers and strings are performed as a matter of course during execution.

If a function requires a string parameter and a numeric parameter is supplied, the variable will be automatically modified to include the representative string.

If a function requires a numeric parameter and a string parameter is supplied, an attempt will be made to convert the string to the required numeric parameter. If it does not convert successfully, an error will result.

A **list** is a string variable which itself contains one or more strings, each of which is **delimited** (separated) by a common character. For example, the **FileItemize** function returns a list of file names, delimited by spaces, and the **WinItemize** function returns a list of window names, delimited by tabs. In order to use functions which accept a list as a parameter, such as **AskItemList**, you will need to know what character is being used to delimit the list.

Keywords are the predefined identifiers that have special meaning to the programming language. These cannot be used as variable names.

WIL keywords consist of the **functions**, **commands**, and **predefined constants**.

Some examples of reserved keywords:

Beep

DirChange

@Yes

FileCopy

The programming language operators take one operand ("unary operators") or two operands ("binary operators").

Unary operators (integers and floating point numbers):

Unary operators (integers only):

Binary logical operators (integers only):

Binary arithmetic operators (integers and floating point numbers):

Binary relational operators:

Assignment operator:

Unary operators (integers and floating point numbers):

-	Arithmetic Negation (Two's complement)
+	Identity (Unary plus)

Unary operators (integers only):

~	Bitwise Not. Changes each **0** bit to **1**, and vice-versa.
!	Logical Not. Produces **0** (**@FALSE**) if the operand is nonzero, else **1** (**@TRUE**) if the operand is zero.

Binary logical operators (integers only):

<<	Left Shift
>>	Right Shift
&	Bitwise And
|	Bitwise Or
^	Bitwise Exclusive Or (XOR)
&&	Logical And
| |	Logical Or

Binary arithmetic operators (integers and floating point numbers):

**	Exponentiation
*	Multiplication
/	Division
mod	Modulo
+	Addition
-	Subtraction

Binary relational operators:

>	Greater-than
>=	Greater-than or equal
<	Less-than
<=	Less-than or equal
==	Equality
!= or **<>**	Inequality

Assignment operator:

=	Assigns evaluated result of an expression to a variable

The precedence of the operators affect the evaluation of operands in expressions. Operands associated with higher-precedence operators are evaluated before the lower-precedence operators.

The table below shows the precedence of the operators. Where operators have the same precedence, they are evaluated from left to right.

Operator	**Description**
( )	Parenthetical grouping
~ ! - +	Unary operators
**	Exponentiation
*** / mod**	Multiplication & Division
+ -	Addition & Subtraction
<< >>	Shift operators
< <= == >= > != <>	Relational operators
& ^ |	Bit manipulation operators
&& ||	Logical operators

A comment is a sequence of characters that are ignored when processing a command. A semicolon (not otherwise part of a string constant) indicates the beginning of a comment.

All characters to the right of the semicolon are considered comments, and are ignored.

Blank lines are also ignored.

Examples of comments:

```
; This is a comment
abc = 5     ; This is also a comment
```

Assignment Statements

Assignment statements are used to set variables to specific or computed values. Variables may be set to integers or strings or floating point numbers.

Examples:

```
a = 5
value = Average(a, 10, 15)
location = "Northern Hemisphere"
world = StrCat(location, " ", "Southern Hemisphere")
```

Control Statements

Control statements are generally used to execute system management functions and consist of a call to a command without assigning any return values.

Examples:

```
Exit        While         For
Yield             Switch       Return
```

The WIL language has a powerful substitution feature which inserts the contents of a string variable into a statement before the line is parsed.

To substitute the contents of a variable in the statement, simply put a percent-sign (**%**) on both sides of the variable name.

Examples:

```
mycmd = "DirChange('c:\')"      ;set mycmd to a command
%mycmd%                         ;execute the command
```

Or consider this one:

```
IniWrite("PC", "User", "Richard")
...
name = IniRead("PC", "User", "somebody")
message("", "Thank you, %name%")
```

will produce this message box:

The variable substitution feature can be used to simulate an "array" of strings. For example, if you wanted to read the lines contained in a file into an array of variables named **line1** through **line#** (where **#** is the line number of the last line in the file), and then write them to a new file in reverse order, you could do so as follows:

```
handle = FileOpen("c:\config.sys", "READ")
num = 0
line0=""
While line%num% != "*EOF*"
     num = num + 1
     line%num% = FileRead(handle)
EndWhile
FileClose(handle)
handle = FileOpen("c:\config.rev", "WRITE")
While num > 1
     num = num - 1
     FileWrite(handle, line%num%)
EndWhile
FileClose(handle)
Message("Processing complete", "CONFIG.REV created")
```

To put a single percent-sign (**%**) on a source line, specify a double percent sign(**%%**). This is required even inside quoted strings.

Note: The length of a line, after any substitution occurs, may not exceed 255 characters.

Most of the functions and commands in the language require parameters. These come in several types:

Integer

Floating point number

String

List

Variable name

The interpreter performs automatic conversions between strings, integers and floating point numbers, so that you can use them interchangeably. In general, the only case to be careful of is comparing two floating point numbers -- floating point numbers have a habit of never being quite equal when you want them to.

Integer parameters may be any of the following:

An integer (i.e. 23)

A string representing an integer (i.e. "23")

A variable containing an integer

A variable containing a string representing an integer

Floating point parameters may be any of the following:

A floating point number (i.e. 3.141569)

A string representing an integer (i.e. "314.1569E-2")

A variable containing a floating point number

A variable containing a string representing a floating point number

String parameters may be any of the following:

A string

An integer

A variable containing a string

A variable containing a list

A variable containing an integer

A variable containing a floating point number

There are three types of errors that can occur while processing a WIL program: **Minor**, **Moderate**, and **Fatal**. What happens when an error occurs depends on the current error mode, which is set with the **ErrorMode** function.

There are three possible modes you can specify:

@CANCEL

User is notified when any error occurs, and then the WIL program is canceled. This is the default.

@NOTIFY

User is notified when any error occurs, and has option to continue unless the error is fatal.

@OFF

User is only notified if the error is moderate or fatal. User has option to continue unless the error is fatal.

The function **LastError** returns the code of the most-recent error encountered during the currently-executing WIL program.

Minor errors are numbered from **1000** to **1999**.
Moderate errors are numbered from **2000** to **2999**.
Fatal errors are numbered from **3000** to **3999**.

Error handling is reset to **@CANCEL** at the start of each WIL program.

Note: You must read the section on the **ErrorMode** function completely before attempting to use the function to suppress run-time errors.

Abs(integer)

Returns the absolute value of a number.

Acos(fp_num)

Calculates the arccosine.

Asin(fp_num)

Calculates the arcsine.

Atan(fp_num)

Calculates the arc tangent.

Average(number [,number...])

Returns the average of a list of numbers.

Ceiling(fp_num)

Calculates the ceiling of a value.

Char2Num(string)

Returns the ANSI code of a string's first character.

Cos(fp_num)

Calculates the cosine.

Cosh(fp_num)

Calculates the hyperbolic cosine.

Decimals(#digits)

Sets the number of decimal points used with floating point numbers.

Exp(fp_num)

Calculates the exponential.

Fabs(fp_num)

Calculates the absolute value of a floating-point argument.

Floor(fp_num)

Calculates the floor of a value.

Int(string/fp_num)

Converts a floating point number or a string to an integer.

IsFloat(value)

Tests whether a number can be converted to a floating point number.

IsInt(string)

Tests whether a number can be converted into a valid number.

IsNumber(value)

Determines if a string represents a valid number.

Log10(fp_num)

Calculates the base-10 logarithm.

Loge(fp_num)

Calculates the natural logarithm.

Max(number [,number...])

Determines the highest number in a list.

Min(number [,number...])

Determines the lowest number in a list.

Num2Char(integer)

Converts a number to its character equivalent.

Random(integer)

Generates a positive random number.

Sin(fp_num)

Calculates the sine.

Sinh(fp_num)

Calculates the hyperbolic sine.

Sqrt(fp_num)

Calculates the square root.

Tan(fp_num)

Calculates the tangent.

Tanh(fp_num)

Calculates the hyperbolic tangent.

TimeAdd(YmdHms, YmdHms)

Adds two YmdHms variables.

TimeDiffDays(Ymd[Hms], Ymd[Hms])

Returns the difference in days between the two dates.

TimeDiffSecs(YmdHms, YmdHms)

Returns the time difference in seconds between the two date times.

TimeJulianDay(Ymd[Hms])

Returns the julian day given a date/time.

TimeJulToYmd(julian-date)

Returns the Julian day given a datetime.

TimeSubtract(datetime, datetime difference)

Subtracts one YmdHms variable from another.

BinaryAlloc(buffsize)

Allocates a memory buffer of the desired size.

BinaryCopy(handle targ, offset targ, handle src, offset src, bytecount)

Copies bytes of data from one binary buffer to another.

BinaryEodGet(handle)

Returns the offset of the free byte just after the last byte of stored data.

BinaryEodSet(handle, offset)

Sets the EOD value of a buffer.

BinaryFree(handle)

Frees a buffer previously allocated with Binary Alloc.

BinaryIndex(handle, offset, search string, direction)

Searches a buffer for a string.

BinaryIndexNC(handle, offset, string, direction)

Searches a buffer for a string. (case insensitive)

BinaryPeek(handle, offset)

Returns the value of a byte from a binary buffer.

BinaryPeekStr(handle, offset, maxsize)

Extracts a string from a binary buffer.

BinaryPoke(handle, offset, value)

Pokes a new value into a binary buffer at offset.

BinaryPokeStr(handle, offset, string)

Writes a string into a binary buffer.

BinaryRead(handle, filename)

Reads a file into a binary buffer.

BinaryStrCnt(handle, start-offset, end-offset, string)

Counts the occurrences of a string in some or all of a binary buffer.

BinaryWrite(handle, filename)

Writes a binary buffer to a file.

ClipAppend(string)

Appends a string to the end of the Clipboard.

ClipGet( )

Returns the Clipboard contents into a string.

ClipPut(string)

Replaces the Clipboard contents with a string.

Snapshot(request#)

Takes a snapshot of the screen and pastes it to the clipboard.

DDEExecute(channel, [commandstring])

Sends commands to a DDE server application.

DDEInitiate(app name, topic name)

Opens a DDE channel.

DDEPoke(channel, item name, item value)

Sends data to a DDE server application.

DDERequest(channel, item name)

Gets data from a DDE server application.

DDETerminate(channel)

Closes a DDE channel.

DDETimeout(value in seconds)

Sets the DDE time-out value.

DirAttrGet([d:]path)

Gets directory attributes.

DirAttrSet(dir-list, settings)

Sets directory attributes.

DirChange([d:]path)

Changes the current directory.

DirExist(pathname)

Determines if a directory exists.

DirGet( )

Returns the current directory path.

DirHome( )

Returns the initial directory path.

DirItemize(dir-list)

Builds a list of directories.

DirMake([d:]path)

Creates a new directory.

DirRemove(dir-list)

Removes an existing directory.

DirRename([d:]oldpath, [d:]newpath)

Renames a directory.

DirWindows(request#)

Returns the name of the Windows or Windows System directory.

DiskExist(drive letter)

Tests for the existence of a drive.

DiskFree(drive-list)

Returns the amount of free space on a set of drives.

DiskScan(request#)

Returns a list of drives.

LogDisk(drive letter)

Logs (activates) a disk drive.

NetInfo(request code)

Determines network(s) installed.

About( )

Displays the About message box.

AskFileName(title, directory, filetypes, default filename, flag)

Returns the filename as selected by a FileOpen dialog box.

AskItemlist(title, list, delimiter, sort mode, select mode)

Allows the user to choose an item from a list box initialized with a list variable.

Debug(mode)

Turns the Debug mode on or off.

DebugData(string, string)

Writes data via the Windows OutputDebugString function to the default destination.

Dialog(dialog-name)

Displays a user-defined dialog box.

Display(seconds, title, text)

Momentarily displays a string.

Message(title, text)

Displays text in a message box.

Pause(title, prompt)

Displays Text in a message box.

Print(data file, directory, display mode, waitflag)

Instructs an application associated to a file to print the file on the default printer.

Sounds(request#)

Turns sounds on or off.

Terminate(condition, title, text)

Conditionally ends a WIL program.

DllCall(dllfilename/dllhandle, returntype:entrypoint [,paramtype:param...])

Calls an external Dll.

DllFree(dllhandle)

Frees a Dll that was loaded via the DllLoad function.

DllHinst(partial-winname)

Obtains an application instance handle for use in DllCall's when required.

DllHwnd(partial-winname)

Obtains a window handle for use in DllCall's when required.

DllLoad(dllname)

Loads a Dll for later use via the DllCall function.

AskFileName(title, directory, filetypes, default filename, flag)

Returns the filename as selected by a FileOpen dialog box.

AskFileText(title, filename, sort mode, select mode)

Allows the user to choose an item from a list box initialized with data from a file.

BinaryRead(handle, filename)

Reads a file into a binary buffer.

BinaryWrite(handle, filename)

Writes a binary buffer to a file.

FileAppend(source-list, destination)

Appends one or more files to another file.

FileAttrGet(filename)

Returns file attributes.

FileAttrSet(file-list, settings)

Sets file attributes.

FileClose(filehandle)

Closes a file.

FileCompare(filename1, filename2)

Compares two files.

FileCopy(source-list, destination, warning)

Copies files.

FileDelete(file-list)

Deletes files.

FileExist(filename)

Test for the existence of files.

FileExtension(filename)

Returns the extension of a file.

FileFullName(partial filename)

Returns a file name with drive and path information.

FileItemize(file-list)

Builds a list of files.

FileLocate(filename)

Finds a file within the current DOS path.

FileMapName(filename, mapping-data)

Transforms a filename with a file wild-card mask and returns a new filename.

FileMove(source-list, destination, warning)

Moves files to another set of path names.

FileNameLong {*32}(filename)

Returns the long version of a filename.

FileNameShort {*32}(filename)

Returns the short (ie, 8.3) version of a filename.

FileOpen(filename, mode)

Opens a STANDARD ASCII (only) file for reading or writing.

FilePath(filename)

Returns path of a file.

FileRead(filehandle)

Reads data from a file.

FileRename(source-list, destination)

Renames files to another set of names.

FileRoot(filename)

Returns root of a file.

FileSize(file-list)

Adds up the total size of a set of files.

FileTimeCode(filename)

Returns a machine readable/computable code for a file time.

FileTimeGet(filename)

Returns file date and time.

FileTimeSet(list, ymdhms)

Sets the date and time of one or more files.

FileTimeTouch(file-list)

Sets file(s) to current time.

FileWrite(handle, output-data)

Writes data to a file.

FileYmdHms(filename)

Returns a file time in the YmdHms date/time format.

IconReplace(filename, icon filename)

Replaces an existing icon with a new icon.

IniDelete(section, keyname)

Removes a line or section from WIN.INI.

IniDeletePvt(section, keyname, filename)

Removes a line or section from a private INI file.

IniItemize(section)

Lists keywords or sections in WIN.INI file.

IniItemizePvt(section, filename)

List keywords or sections in a private INI file.

IniRead(section, keyname, default)

Reads a string from the WIN.INI file.

IniReadPvt(section, keyname, default, filename)

Reads a string from a private INI file.

IniWrite(section, keyname, data)

Writes a string to the WIN.INI file.

IniWritePvt(section, keyname, data, filename)

Writes a string to a private INI file.

InstallFile(filename, targname, default-targdir, delete-old, flags)

Installs a file.

Print(data file, directory, display mode, waitflag)

Instructs an application associated to a file to print the file on the default printer.

ShortcutEdit {*95}(link-name, target, params, start-dir, show-mode)

Modifies the specified shortcut file.

ShortcutExtra {*95}(link-name, description, hotkey, icon-file, icon-index)

Sets additional information for the specified shortcut file.

ShortcutInfo {*95}(link-name)

Returns information on the specified shortcut file.

ShortcutMake {*95}(link-name, target, params, start-dir, show-mode)

Creates a Windows 95 shortcut for the specified filename or directory.

AskFileName(title, directory, filetypes, default filename, flag)

Returns the filename as selected by a FileOpen dialog box.

AskFileText(title, filename, sort mode, select mode)

Allows the user to choose an item from a list box initialized with data from a file.

AskItemList(title, list, delimiter, sort mode, select mode)

Allows the user to choose an item from a list box initialized with a list variable.

AskLine(title, prompt, default answer)

Lets the user enter a line of information.

AskYesNo(title, question)

Lets the user choose from Yes, No, or Cancel.

Debug(mode)

Turns the Debug mode on or off.

Dialog(dialog-name)

Displays a user-defined dialog box.

DirChange([d:]path)

Changes the current directory.

Display(seconds, title, text)

Momentarily displays a string.

EndSession( )

Ends the current Windows session.

FileCopy(source-list, filename/mask, mode)

Copies files.

For varname = initial value to final value [by increment]

Controls the looping of a block of code base in an incrementing index.

GoSub

Transfers control of WIL processing while saving location of the next statement.

If ... Else ... Endifexpression

Conditionally performs a function.

IniReadPvt(section, keyname, default, filename)

Reads a string from a private INI file.

IsKeyDown(keycode)

Determines if the Shift key or the Ctrl key is currently down.

ItemCount(list, delimiter)

Returns the number of items in a list.

ItemExtract(index, list, delimiter)

Returns the selected item from a list.

Message(title, text)

Displays text in a message box.

NetInfo(request code)

Determines network(s) installed.

Pause(title, text)

Displays Text in a message box.

Print(data file, directory, display mode, waitflag)

Instructs an application associated to a file to print the file on the default printer.

RegQueryBin {*32}(handle, subkey-string)

Returns binary value at subkey position.

RegQueryDword {*32}(handle, subkey-string)

Returns DWORD value at subkey position.

RegQueryItem {*32}(handle, subkey-string)

Returns a list of named data items for a subkey.

RegQueryValue(keyhandle, sub-key string)

Returns data item string at sub-key position.

RegSetBin {*32} (handle, subkey-string, value)

Sets a binary value in the Registration Database.

RegSetDword {*32} (handle, subkey-string, value)

Sets a DWORD value in the Registration Database.

RegSetValue(keyhandle, sub-key string, value)

Sets the value of a data item in the registration database.

RunShell(program-name, params, directory, displaymode, waitflag)

Runs a program via the Windows ShellExecute Command.

SendKeysTo(partial-parent-windowname, send-key string)

Sends keystrokes to a "windowname".

SendMenusTo(partial-parent-windowname, menuname)

Activates a window and sends a specified menu option.

ShellExecute (program-name, params, directory, display mode, operation)

Runs a program via the Windows ShellExecute command

StrCat(string [,string])

Concatenates strings together.

StrLen(string)

Returns the length of a string.

StrReplace(string, old, new)

Replaces all occurrences of a sub-string with another.

StrSub(string, startpos, length)

Returns a sub-string from within a string.

Switch varname

Allows selection among multiple blocks of statements.

TimeDelay(seconds)

Pauses execution for a specified amount of time.

TimeWait(YmdHms)

Pauses execution and waits for the date/time to pass.

While expression

Conditionally and/or repeatedly executes a series of statements.

WinClose(partial-winname)

Closes an application window.

WinExist(partial-winname)

Tells if a window exists.

WinIsDos(partial-winname)

Tells whether or not a particular window is a DOS or console-type window.

WinMetrics(request#)

Returns Windows system information.

WinShow(partial-winname)

Shows a window in its "normal" state.

AskFileName(title, directory, filetypes, default filename, flag)

Returns the filename as selected by a FileOpen dialog box.

AskFileText(title, filename, sort mode, select mode)

Allows the user to choose an item from a list box initialized with data from a file.

AskItemList(title, list, delimiter, sort mode, select mode)

Allows the user to choose an item from a list box initialized with a list variable.

AskLine(title, prompt, default answer)

Lets the user enter a line of information.

AskPassword(title, prompt)

Prompts the user for a password.

AskYesNo(title, question)

Lets the user choose from Yes, No, or Cancel.

variable.

ButtonNames(Ok-name, Cancel-name)

Changes the names of the buttons which appear in WIL dialogs.

Display(seconds, title, text)

Momentarily displays a string.

IgnoreInput(mode)

Turns off hardware input to windows.

IsKeyDown(keycode)

Determines if the Shift key or the Ctrl key is currently down.

KeyToggleGet(keycode)

Returns the status of a toggle key.

Pause(title, prompt)

Displays Text in a message box.

Sounds(request#)

Turns sounds on or off.

AddExtender(dllfilename)

Installs a WIL extender Dll.

ClipAppend(string)

Appends a string to the end of the Clipboard.

ClipGet( )

Returns the Clipboard contents into a string.

ClipPut(string)

Replaces the Clipboard contents with a string.

DDEExecute(channel, [commandstring])

Sends commands to a DDE server application.

DDEInitiate(app name, topic name)

Opens a DDE channel.

DDEPoke(channel, item name, item value)

Sends data to a DDE server application.

DDERequest(channel, item name)

Gets data from a DDE server application.

DDETerminate(channel)

Closes a DDE channel.

DDETimeout(value in seconds)

Sets the DDE time-out value.

EnvironSet(env-varname, newvalue)

Changes LOCAL Environment variables.

IntControl(request#, p1, p2, p3, p4)

Special function which permits an internal operation.

MsgTextGet(msgboxtitle)

Returns the contents of a Windows message box.

MouseClick(click-type, modifiers)

Clicks mouse button(s).

MouseClickBtn(parent-windowname, child-windowname, button-text)

Clicks on the specified button control.

MouseMove(X, Y, parent-windowname, child-windowname)

Moves the mouse to the specified X-Y coordinates.

ObjectClose(objecthandle)

Closes OLE 2.0 automation object.

ObjectOpen(objectname)

Opens or creates an OLE 2.0 automation object.

Print(data file, directory, display mode, waitflag)

Instructs an application associated to a file to print the file on the default printer.

SendKey(sendkey-string)

Sends keystrokes to the currently active window.

SendKeysChild(partial-parent-windowname, partial-child-windowname, sendkey-string)

Sends keystrokes to the active child window.

SendKeysTo(partial-parent-windowname, sendkey-string)

Sends keystrokes to a "windowname".

SendMenusTo(partial-parent-windowname, menuname)

Activates a window and sends a specified menu option.

WinActivate(partial-winname)

Makes an application window the active window.

WinActivChild(partial-parent-windowname, partial-child-windowname)

Activates a previously running child window.

WinClose(partial-winname)

Closes an application window.

WinCloseNot(partial-winname [,partial-winname])

Closes all application windows except those specified.

WinExeName(partial-winname)

Returns the name of the executable file which created a specified window.

WinExistChild(partial-parent-windowname, partial-child-windowname)

Tells if a specified child window exists.

WinGetActive( )

Gets the title of the active window.

WinIdGet(partial-winname)

Returns a unique "Window ID" (pseudo-handle) for the specified window name.

WinIsDOS(partial-winname)

Tells whether or not a particular window is a DOS or console-type window.

WinItemChild(partial-parent-windowname)

Returns a list of all the child windows under this parent.

WinItemize( )

Lists all the main windows currently running.

WinItemNameId( )

Returns a list of all open windows and their Window ID's.

WinState(partial-winname)

Returns the current state of a window.

Yield

Pauses WIL processing so other applications can process some messages.

IsMenuChecked(menuname)

Determines if a menu item has a check mark next to it.

IsMenuEnabled(menuname)

Determines if a menu item has been enabled.

MenuChange(menuname, flags)

Checks, unchecks, enables, or disables a menu item.

About( )

Displays the About message box.

AddExtender(dllfilename)

Installs a WIL extender Dll.

Beep

Beeps at the user.

Decimals(#digits)

Sets the number of decimal points used with floating point numbers.

DllCall(dllfilename/dllhandle, returntype:entrypoint

[,paramtype:param...])

Calls an external Dll.

DllLoad(dllname)

Loads a Dll for later use via the DllCall function.

Drop(varname [,varname...])

Deletes variables to recover their memory.

EndSession( )

Ends the current Windows session.

ErrorMode(mode)

Sets what happens in the event of an error.

Exclusive(mode)

Controls whether or not other Windows programs will get any time to execute.

Execute statement

Directly executes a WIL statement.

ExeTypeInfo(exefilename)

Returns an integer describing the type of EXE file specified.

IconReplace(filename, iconfilename)

Replaces an existing icon with a new icon.

IgnoreInput(mode)

Turns off hardware input to windows.

IntControl(request#, p1, p2, p3, p4)

Special function which permits an internal operation.

IsDefined (variable name)

Determines if a variable name is currently defined.

IsFloat(value)

Tests whether a number can be converted to a floating point number.

IsInt(string)

Tests whether a number can be converted into a valid number.

IsKeyDown(keycode)

Determines if the Shift key or the Ctrl key is currently down.

IsLicensed( )

Tells if the calling application is licensed.

IsNumber(value)

Determines if a string represents a valid number.

KeyToggleGet(@key)

Returns the status of a toggle key.

KeyToggleSet(@key, value)

Sets the state of a toggle key and returns the previous value.

LastError( )

Returns the last error encountered.

MouseClick(click-type, modifiers)

Clicks mouse button(s).

MouseClickBtn(parent-windowname, child-windowname, button-text)

Clicks on the specified button control.

MouseInfo(request#)

Returns assorted mouse information.

MouseMove(X, Y, parent-windowname, child-windowname)

Moves the mouse to the specified X-Y coordinates.

MsgTextGet(window-name)

Returns the contents of a Windows message box.

NetInfo(request code)

Determines network(s) installed.

ParseData(string)

Parses a passed string.

Sounds(request#)

Turns sounds on or off.

Version( )

Returns the version of the parent program currently running.

VersionDLL( )

Returns the version of the WIL interpreter currently running.

WallPaper(bmp-filename, tilemode)

Changes the Windows wallpaper.

Yield

Pauses WIL processing so other applications can process some messages.

DllCall(dllfilename/dllhandle, returntype:entrypoint [,paramtype:param...])

Calls an external Dll.

DllFree(dllhandle)

Frees a Dll that was loaded via the DllLoad function.

DllHinst(partial-winname)

Obtains an application instance handle for use in DllCall's when required.

DllHwnd(partial-winname)

Obtains a window handle for use in DllCall's when required.

DllLoad(dllname)

Loads a Dll for later use via the DllCall function.

PlayMedia(command-string)

Controls multimedia devices.

PlayMidi(filename, mode)

Plays a MID or RMI sound file.

PlayWaveForm(filename, mode)

Plays a WAV sound file.

Sounds(request#)

Turns sounds on or off.

AddExtender(dllfilename)

Installs a WIL extender Dll.

NetInfo(request#)

Determines network(s) installed.

ObjectClose(objecthandle)

Closes OLE 2.0 automation object.

ObjectOpen(objectname)

Opens or creates an OLE 2.0 automation object.

AddExtender(dllfilename)

Installs a WIL extender Dll.

AppWaitClose(program-name)

Suspends WIL program execution until a specified application has been closed.

Break

Used to exit a conditional flow control statement.

Call(wilfilename, parameters)

Calls a WIL batch file as a subroutine.

Continue

Transfers control to the beginning of a For or While loop or to a different case statement.

Debug(mode)

Turns the Debug mode on or off.

DebugData(string, string)

Writes data via the Windows OutputDebugString function to the default destination.

DllCall(dllfilename/dllhandle, returntype:entrypoint [,paramtype:param...])

Calls an external Dll.

DllFree(dllhandle)

Frees a Dll that was loaded via the DllLoad function.

DllHinst(partial-winname)

Obtains an application instance handle for use in DllCall's when required.

DllHwnd(partial-winname)

Obtains a window handle for use in DllCall's when required.

DllLoad(dllname)

Loads a Dll for later use via the DllCall function.

Drop (varname [,varname...])

Deletes variables to recover their memory.

EndSession( )

Ends the current Windows session.

ErrorMode(mode)

Sets what happens in the event of an error.

Exclusive(mode)

Controls whether or not other Windows programs will get any time to execute.

Execute statement

Directly executes a WIL statement.

Exit

Unconditionally ends a WIL program.

For varname = initial value to final value [by increment]

Controls the looping of a block of code base in an incrementing index.

GoSub

Transfers control of WIL processing while saving location of the next statement.

Goto label

Changes the flow of control in a WIL program.

If / Else / Endifexpression

Conditionally performs a function.

IgnoreInput(mode)

Turns off hardware input to windows.

LastError( )

Returns the last error encountered.

Return

Returns from a Call to the calling program or from a GoSub :label.

Select varname

Allows selection among multiple blocks of statements.

Switch varname

Allows selection among multiple blocks of statements.

Terminate(expression, title, message)

Conditionally ends a WIL program.

TimeDelay(seconds)

Pauses execution for a specified amount of time.

TimeWait(YmdHms)

Pauses execution and waits for the date/time to pass.

Version( )

Returns the version of the parent program currently running.

VersionDLL( )

Returns the version of the WIL interpreter currently running.

WaitForKey(key, key, key, key, key)

Waits for a specific key to be pressed.

While expression

Conditionally and/or repeatedly executes a series of statements.

WinIsDos(partial-winname)

Tells whether or not a particular window is a DOS or console-type window.

WinResources(request#)

Returns information on available memory and resources.

WinState(partial-winname)

Returns the current state of a window.

WinSysInfo()

Returns system configuration information.

WinVersion(request#)

Returns the version of Windows that is currently running.

WinWaitClose(partial-winname)

Waits until an application window is closed.

Yield

Pauses WIL processing so other applications can process some messages.

AppExist(program-name)

Tells if an application is running.

AppWaitClose(program-name)

Suspends WIL program execution until a specified application has been closed.

DllCall(dllfilename/dllhandle, returntype:entrypoint [,paramtype:param...])

Calls an external Dll.

DllLoad(dllname)

Loads a Dll for later use via the DllCall function.

EnvironSet(env-varname, newvalue)

Changes LOCAL Environment variables.

ObjectClose(objecthandle)

Closes OLE 2.0 automation object.

ObjectOpen(objectname)

Opens or creates an OLE 2.0 automation object.

Print(data file, directory, display mode, waitflag)

Instructs an application associated to a file to print the file on the default printer.

Run(program-name, parameters)

Runs a program as a normal window.

RunEnviron(program name, parameters, displaymode, waitflag)

Launches a program in the current environment as set with the EnvironSet command.

RunExit(program-name, parameters)

Exits Windows, runs a DOS program or batch file then restarts windows when DOS is finished.

RunHide(program-name, parameters)

Runs a program as a hidden window.

RunHideWait(program-name, parameters)

Runs a program in a hidden window and waits for it to close.

RunIcon(program-name, parameters)

Runs a program as an icon.

RunIconWait(program-name, parameters)

Runs a program as an icon and waits for it to close.

RunShell(program-name, params, directory, displaymode, waitflag)

Runs a program via the Windows ShellExecute Command.

RunWait(program-name, parameters)

Runs a program as a normal window and waits for it to close.

RunZoom(program-name, parameters)

Runs a program in a maximized window.

RunZoomWait(program-name, parameters)

Runs a program in a maximized window and waits for it to close.

ShellExecute (program-name, params, directory, display mode, operation)

Runs a program via the Windows ShellExecute command

RegApp {*32}(program-name, path)

Creates registry entries for a program under "App Paths".

RegCloseKey(keyhandle)

Closes a key to the registration database.

RegCreateKey(keyhandle, sub-key string)

Returns a handle to a new registration database key.

RegDeleteKey(keyhandle, sub-key string)

Deletes a key and data items associated with the key.

RegDelValue {*32}(handle, subkey-string)

Deletes a named value data item for the specified subkey from the registry.

RegOpenKey(keyhandle, sub-key string)

Returns a handle to an existing registration database key.

RegQueryBin {*32}(handle, subkey-string)

Returns binary value at subkey position.

RegQueryDword {*32}(handle, subkey-string)

Returns DWORD value at subkey position.

RegQueryItem {*32}(handle, subkey-string)

Returns a list of named data items for a subkey.

RegQueryKey(keyhandle, index)

Returns sub keys of the specified key.

RegQueryValue(keyhandle, keyname)

Returns data item string at sub-key position.

RegSetBin {*32} (handle, subkey-string, value)

Sets a binary value in the Registration Database.

RegSetDword {*32} (handle, subkey-string, value)

Sets a DWORD value in the Registration Database.

RegSetValue(keyhandle, sub-key string, value)

Sets the value of a data item in the registration database.

BinaryPeekStr(handle, offset, maxsize)

Extracts a string from a binary buffer.

BinaryPokeStr(handle, offset, string)

Writes a string into a binary buffer.

Char2Num(string)

Returns the ANSI code of a string's first character.

ClipAppend(string)

Appends a string to the end of the Clipboard.

ClipGet( )

Returns the Clipboard contents into a string.

ClipPut(string)

Replaces the Clipboard contents with a string.

Decimals(#digits)

Sets the number of decimal points used with floating point numbers.

Drop (varname [,varname...])

Deletes variables to recover their memory.

Environment(env-variable)

Gets a DOS environment variable.

EnvItemize( )

Returns a delimited list of the current environment.

FileExtension(filename)

Returns the extension of a file.

FileFullName(partial filename)

Returns a file name with drive and path information.

FileItemize(file-list)

Builds a list of files.

FileLocate(filename)

Finds a file within the current DOS path.

FileMapName(filename, mapping data)

Transforms a filename with a file wild-card mask and returns a new filename.

FilePath(filename)

Returns path of a file.

FileRoot(filename)

Returns root of a file.

FileYmdHms(filename)

Returns a file time in the YmdHms date/time format.

IsFloat(string)

Tests whether a number can be converted to a floating point number.

IsInt(string)

Tests whether a number can be converted into a valid number.

IsNumber(value)

Determines if a string represents a valid number.

ItemCount(list, delimiter)

Returns the number of items in a list.

ItemExtract(index, list, delimiter)

Returns the selected item from a list.

ItemInsert(item, index, list, delimiter)

Adds an item to a list.

ItemLocate(item, list, delimiter)

Returns the position of an item in a list.

ItemRemove(index, list, delimiter)

Removes an item from a list.

ItemSort(list, delimiter)

Sorts a list.

Num2Char(integer)

Converts a number to its character equivalent.

ParseData(string)

Parses a passed string.

StrCat(string [,string])

Concatenates strings together.

StrCharCount(string)

Counts the number of characters in a string.

StrCmp(string1, string2)

Compares two strings.

StrFill(filler, length)

Builds a string from a repeated smaller string.

StrFix(base-string, pad-string, length)

Pads or truncates a string to a fixed length.

StrFixChars(base-string, pad-string, length)

Pads or truncates a string To a fixed length using characters.

StrIndex(string, sub-string, start, direction)

Locates a string within a larger string.

StrLen(string)

Returns the length of a string.

StrLower(string)

Converts a string to all lower-case characters.

StrReplace(string, old, new)

Replaces all occurrences of a sub-string with another.

StrScan(string, delimiters, startpos, direction)

Finds an occurrence of one or more delimiter characters in a string.

StrSub(string, startpos, length)

Returns a sub-string from within a string.

StrTrim(string)

Trims leading and trailing blanks from a string.

StrUpper(string)

Converts a string to all upper-case characters.

WinItemize( )

Lists all the main windows currently running.

WinItemNameId( )

Returns a list of all open windows and their Window ID's.

About( )

Displays the About message box.

AddExtender(dllfilename)

Installs a WIL extender Dll.

AppExist(program-name)

Tells if an application is running.

AppWaitClose(program-name)

Suspends WIL program execution until a specified application has been closed.

Beep

Beeps at the user.

Debug(mode)

Turns the Debug mode on or off.

DebugData(string, string)

Writes data via the Windows OutputDebugString function to the default destination.

DirHome( )

Returns the initial directory path.

DirWindows(request#)

Returns the name of the Windows or Windows System directory.

DiskExist(drive letter)

Tests for the existence of a drive.

DiskFree(drive-list)

Returns the amount of free space on a set of drives.

DiskScan(request#)

Returns a list of drives.

DllCall(dllfilename/dllhandle, returntype:entrypoint [,paramtype:param...])

Calls an external Dll.

DllFree(dllhandle)

Frees a Dll that was loaded via the DllLoad function.

DllHinst(partial-winname)

Obtains an application instance handle for use in DllCall's when required.

DllHwnd(partial-winname)

Obtains a window handle for use in DllCall's when required.

DllLoad(dllname)

Loads a Dll for later use via the DllCall function.

DOSVersion(level)

Returns the version numbers of the current version of DOS.

Drop(varname [,varname...])

Deletes variables to recover their memory.

EndSession( )

Ends the current Windows session.

Environment(env-variable)

Gets a DOS environment variable.

EnvironSet(env-varname, newvalue)

Changes LOCAL Environment variables.

EnvItemize( )

Returns a delimited list of the current environment.

ErrorMode(mode)

Sets what happens in the event of an error.

Exclusive(mode)

Controls whether or not other Windows programs will get any time to execute.

Executestatement

Directly executes a WIL statement.

ExeTypeInfo(exefilename)

Returns an integer describing the type of EXE file specified.

Exit

Unconditionally ends a WIL program.

FileFullName(partial filename)

Returns a file name with drive and path information.

FileMapName(filename, mapping-data)

Transforms a filename with a file wild-card mask and returns a new filename.

FileTimeCode(filename)

Returns a machine readable/computable code for a file time.

FileTimeGet(filename)

Returns file date and time.

FileTimeSet(list, ymdhms)

Sets the date and time of one or more files.

FileTimeTouch(file-list)

Sets file(s) to current time.

GetExactTime( )

Returns the current time in hundredths of a second.

GetTickCount( )

Returns the number of clock ticks used by Windows since Windows started.

IgnoreInput(mode)

Turns off hardware input to windows.

IntControl(request#, p1, p2, p3, p4)

Special function which permits an internal operation.

KeyToggleGet(@key)

Returns the status of a toggle key.

KeyToggleSet(@key, value)

Sets the state of a toggle key and returns the previous value.

LastError( )

Returns the last error encountered.

MouseInfo(request#)

Returns assorted mouse information.

MsgTextGet(window-name)

Returns the contents of a Windows message box.

NetInfo(request code)

Determines network(s) installed.

ObjectClose(objecthandle)

Closes OLE 2.0 automation object.

ObjectOpen(objectname)

Opens or creates an OLE 2.0 automation object.

PlayMedia (command-string)

Controls multimedia devices.

PlayMidi(filename, mode)

Plays a MID or RMI sound file.

PlayWaveForm(filename, mode)

Plays a WAV sound file.

RegCloseKey(keyhandle)

Closes a key to the registration database.

RegCreateKey(keyhandle, sub-key string)

Returns a handle to a new registration database key.

RegDeleteKey(keyhandle, sub-key string)

Deletes a key and data items associated with the key.

RegOpenKey(keyhandle, sub-key string)

Returns a handle to an existing registration database key.

RegQueryBin {*32}(handle, subkey-string)

Returns binary value at subkey position.

RegQueryDword {*32}(handle, subkey-string)

Returns DWORD value at subkey position.

RegQueryItem {*32}(handle, subkey-string)

Returns a list of named data items for a subkey.

RegQueryKey(keyhandle, index)

Returns sub keys of the specified key.

RegQueryValue(keyhandle, keyname)

Returns data item string at sub-key position.

RegSetBin {*32} (handle, subkey-string, value)

Sets a binary value in the Registration Database.

RegSetDword {*32} (handle, subkey-string, value)

Sets a DWORD value in the Registration Database.

RegSetValue(keyhandle, sub-key string, value)

Sets the value of a data item in the registration database.

Snapshot(request#)

Takes a snapshot of the screen and pastes it to the clipboard.

Sounds(request#)

Turns sounds on or off.

Terminate(expression, title, message)

Conditionally ends a WIL program.

Version( )

Returns the version of the parent program currently running.

VersionDLL( )

Returns the version of the WIL interpreter currently running.

WinExeName(partial-winname)

Returns the name of the executable file which created a specified window.

WinExist(partial-winname)

Tells if a window exists.

WinExistChild(partial-parent-windowname, partial-child-windowname)

Tells if a specified child window exists.

WinGetActive( )

Gets the title of the active window.

WinHelp(helpfile, function, keyword)

Calls a Windows help file.

WinIsDOS(partial-winname)

Tells whether or not a particular window is a DOS or console-type window.

WinItemChild(partial-parent-windowname)

Returns a list of all the child windows under this parent.

WinItemize( )

Lists all the main windows currently running.

WinItemNameId( )

Returns a list of all open windows and their Window ID's.

WinMetrics(request#)

Returns Windows system information.

WinName( )

Returns the name of the window calling the WIL Interpreter.

WinParmGet(request#)

Returns system information.

WinParmSet(request#, new-value, ini-control)

Sets system information.

WinResources(request#)

Returns information on available memory and resources.

WinState(partial-winname)

Returns the current state of a window.

WinSysInfo() {*32}()

Returns system configuration information.

WinVersion(level)

Returns the version of Windows that is currently running.

Yield

Pauses WIL processing so other applications can process some messages.

FileTimeCode(filename)

Returns a machine readable/computable code for a file time.

FileTimeGet(filename)

Returns file date and time.

FileTimeSet(list, ymdhms)

Sets the date and time of one or more files.

FileTimeTouch(file-list)

Sets file(s) to current time.

FileYmdHms(filename)

Returns a file time in the YmdHms date/time format.

GetExactTime( )

Returns the current time in hundredths of a second.

GetTickCount( )

Returns the number of clock ticks used by Windows since Windows started.

TimeAdd(YmdHms, YmdHms)

Adds two YmdHms variables.

TimeDate( )

Provides the current date and time in a readable format.

TimeDelay(seconds)

Pauses execution for a specified amount of time.

TimeDiffDays(Ymd[Hms], Ymd[Hms])

Returns the difference in days between the two dates.

TimeDiffSecs(YmdHms, YmdHms)

Returns the time difference in seconds between the two date times.

TimeJulianDay(Ymd[Hms])

Returns the julian day given a date/time.

TimeJulToYmd(julian-date)

Returns the Julian day given a datetime.

TimeSubtract(datetime, datetime difference)

Subtracts one YmdHms variable from another.

TimeWait(YmdHms)

Pauses execution and waits for the date/time to pass.

TimeYmdHms( )

Returns current date/time in the date/time format.

Yield

Pauses WIL processing so other applications can process some messages.

DllHwnd(partial-winname)

Obtains a window handle for use in DllCall's when required.

IconArrange( )

Rearranges icons.

WallPaper(bmp-filename, tilemode)

Changes the Windows wallpaper.

WinActivate(partial-winname)

Makes an application window the active window.

WinActivChild(partial-parent-windowname, partial-child-windowname)

Activates a previously running child window.

WinArrange(style)

Arranges all running application windows on the screen.

WinClose(partial-winname)

Closes an application window.

WinCloseNot(partial-winname [,partial-winname])

Closes all application windows except those specified.

WinExeName(partial-winname)

Returns the name of the executable file which created a specified window.

WinExist(partial-winname)

Tells if a window exists.

WinExistChild(partial-parent-windowname, partial-child-windowname)

Tells if a specified child window exists.

WinGetActive( )

Gets the title of the active window.

WinHide(partial-winname)

Hides an application window.

WinIconize(partial-winname)

Turns an application window into an icon.

WinIdGet(partial-winname)

Returns a unique "Window ID" (pseudo-handle) for the specified window name.

WinIsDOS(partial-winname)

Tells whether or not a particular window is a DOS or console-type window.

WinItemChild(partial-parent-windowname)

Returns a list of all the child windows under this parent.

WinItemize( )

Lists all the main windows currently running.

WinItemNameId( )

Returns a list of all open windows and their Window ID's.

WinName( )

Returns the name of the window calling the WIL Interpreter.

WinParmGet(request#)

Returns system information.

WinParmSet(request#, new-value, ini-control)

Sets system information.

WinPlace(x-ulc, y-ulc, x-brc, y-brc, partial-winname)

Changes the size and position of an application window on the screen.

WinPlaceGet(win-type partial-winname)

Returns window coordinates.

WinPlaceSet(win-type, partial-winname, position -string)

Sets window coordinates.

WinPosition(partial-winname)

Returns window position.

WinShow(partial-winname)

Shows a window in its "normal" state.

WinState(partial-winname)

Returns the current state of a window.

WinSysInfo() {*32}()

Returns system configuration information.

WinTitle(old-partial-winname, new-winname)

Changes the title of an application window.

WinWaitClose(partial-winname)

Waits until an application window is closed.

WinZoom(partial-winname)

Maximizes an application window to full-screen.

Predefined Constants

Floating Point Constants

String Constants

WIL provides you with a number of predefined integer constants to help make your WIL programs more mnemonic:

Logical Conditions

@NO

@OFF

@TRUE

@YES

@ON

Window Arranging

@FALSE

@NORESIZE

@ABOVEICONS

@STACK

@ARRANGE

@TITLE

@ROWS

@COLUMNS

Window Status

@NORMAL

@ZOOMED

@ICON

@HIDDEN

Menu Handling

@CHECK

@UNCHECK

@DISABLE

@ENABLE

String Handling

@FWDSCAN

@BACKSCAN

System Control

@MAJOR

@MINOR

Error Handling

@CANCEL
@NOTIFY
@OFF

Keyboard Status

@SHIFT
@CTRL

OS Dependent

@CAPSLOCK
@NUMLOCK
@REGCLASSES
@REGCURRENT
@REGMACHINE
@REGROOT
@REGUSERS
@SCROLLLOCK
@WHOLESECTION

Debug Control

@PARSEONLY

INI File Management

@WHOLESECTION

Miscellaneous

@MULTIPLE
@NOWAIT
@OPEN
@ROWS
@SAVE
@SINGLE
@SORTED
@STACK
@TILE
@UNSORTED
@WAIT

Here are some floating point constants and their values as defined in WIL.

@AMC

Atomic Mass Constant

1.66043E-27

@AVOGADRO

Avogadro's Constant

6.02252E23

@BOLTZMANN

Boltzmann Entropy Constant

1.38054E-23

@DEG2RAD

Degrees to Radians Conversion Constant

0.017453292519943

@e

Base of natural or Napierian logarithms

2.718281828459045

@ELECTRIC

Electric Field Constant

8.8541853E-12

@EULERS

Eulers's Constant

0.5772156649015338

@FARADAY

Faraday Constant

9.64870E4

@GFTSEC

Gravitational Acceleration feet/sec2

32.174

@GMTSEC

Gravitational Acceleration meters/sec2

9.80665

@GOLDENRATIO

Goldenratio

1.6180339887498948

@GRAVITATION

Gravity Constant

6.670E-11

@LIGHTMPS

Lightmps Light miles/sec

186272

@LIGHTMTPS

Lightmtps meters/sec

2.997925E8

@MAGFIELD

Magnetic Field Constant

1.256637

@PARSEC

Parsec in AU

206.265

@PI

Pi

3.141592653589793

@PLANCKERGS

Planck's Constant in Ergs

6.6252E-27

@PLANCKJOULES

Planck's Constant in joules

6.6256E-34

@RAD2DEG

Radians to Degrees Conversion Constant

57.29577951308232

@CRLF
0x13,0x10 cr,lf

@CR
0x13, cr

@LF
0x10, lf

@TAB
0x09 tab

@LBUTTON
left button

@RBUTTON
right button

@MBUTTON
middle button

@LCLICK
left click

@RCLICK
right click

@MCLICK
middle click

@LDBLCLICK
left double-click

@RDBLCLICK
right double-click

@MDBLCLICK
middle double-click

If the current error mode is **@CANCEL** (the default), any WIL errors encountered while processing a WIL program cause the item to be canceled with an error message.

Minor errors are ignored if the current error mode has been set to **@OFF**. If the error mode is **@NOTIFY** the user has the option of continuing with the WIL program or canceling it.

1002 File List Processing - No Match
1003 FileMove: Failed
1004 FileMove: FROM file open failed
1005 FileMove: TO file open failed
1006 FileMove: I/O error
1007 FileMove: Could not delete FROM file
1008 FileCopy: Failed
1009 FileCopy: FROM file open failed
1010 FileCopy: TO file open failed
1011 FileCopy: I/O error
1012 FileAppend: FROM file open failed
1013 FileAppend: TO file open failed
1014 FileAppend: I/O error
1015 FileRename: Failed
1016 FileDelete: File not found
1017 TimeDiff: Time parameter error - bad value
1018 TimeDiff: Out of Range (over 60 years)
1019 TimeAdd: Cannot add supplied times
1020 TimeAdd: Time parameter error - bad value
1021 WaitLong: Could not properly compute time for delay
1022 WaitUntil: Passed time not in proper format
1025 File Rename: Rename failed
1028 LogDisk: Requested drive not online
1029 DirMake: Dir not created
1030 DirRemove: Dir not removed
1031 DirChange: Dir not found/changed
1034 Clipboard owned by another app. Cannot open.
1035 Clipboard does not contain text for CLIPAPPEND.
1036 Clipboard cannot hold that much text (>64000 bytes)
1037 Unable to get memory for clipboard. Close some apps
1039 WinClose: Window not found
1040 WinHide: Window not found
1041 WinIconize: Window not found

1042 WinZoom: Window not found
1043 WinShow: Window not found
1044 WinPlace: Window not found
1045 WinActivate: Window not found
1077 FileOpen: Open failed
1083 FileAttrGet: File not found
1086 FileAttrSet: File not found or access denied
1100 StrIndex/StrScan 3rd parameter out of bounds
1119 WinPosition: Window not found
1121 WinTitle: Window not found
1125 FileTimeGet: File not found
1126 BinaryAlloc: Could not allocate binary buffer
1128 FileTimeTouch: File not found
1129 OleInitiate: Initiate Failed
1133 OleExecute: Could not process OLE command
1134 OleExecute: Function syntax error
1141 OleExecute: Not enough format ids for all parameters
1143 OleExecute: Format id problem
1144 DDETerminate: Channel not open
1150 DDEExec: DDE Post failed
1155 DDEReq: DDE Post failed
1158 RegOpenKey: Function Failed
1159 RegCreateKey: Function Failed
1163 DDEPoke: DDE Post failed
1164 DDEPoke: DDE Timeout
1165 DDEReq: DDE Timeout
1166 DDEExec: DDE Timeout
1172 WinExeName: Window not found
1173 Net: No network found
1174 Net: Security Violation
1175 Net: Function not supported
1176 Net: Out of Memory
1177 Net: Network Error
1178 Net: Windows function failed
1179 Net: Invalid type of request
1180 Net: Invalid Pointer
1181 Net: Cancelled at users request

1182 Net: Bad user / Not logged in
1183 Net: Buffer too small - Internal Error
1184 Net: Invalid Network name
1185 Net: Invalid Local Name
1186 Net: Invalid Password
1187 Net: Local Device already connected
1188 Net: Not a valid local device or network name
1189 Net: Not a redirected local device or current net name
1190 Net: Files were open with FORCE=FALSE
1191 Net: Function busy
1192 Net: Unknown network error
1193 Function not supported in this version of Windows
1194 PlaySounds: File not found
1195 PlayMedia: Unrecognised Error
1200 WinPlaceGet/Set: Window not found
1201 WinPlaceGet/Set: Function failed
1207 SnapShot: Out of memory
1208 SnapShot: Palette Creation Error
1209 SnapShot: Cannot open clipboard
1213 Cmd Extender: Minor error occurred
1216 RunWait Commands not supported in 3.0 Debug Windows
1217 WinHelp: Invalid SubCommand Requested
1226 DirExist: Invalid path specified
1227 WinIsDos: Window not found or bad window
1229 RegDeleteKey: Function Failed
1230 RegDeleteKey: Access Denied
1231 RegCloseKey: Function Failed
1232 RegSetValue: Function Failed
1233 RegQueryValue: Function Failed
1240 ExeTypeInfo/RunEnviron: Cannot Locate File
1241 RunEnviron: Not a Windows EXE file
1242 EnvironSet: Not enough environment space left.
1248 Ole:System Ole Dll's not found (not installed?)
1249 Ole Object: Could not process value returned from object
1251 Ole: WIL Ole interface Dll not found (WBOLExxx.DLL)
1253 Function not supported on this platform.
1254 Ole: Unknown interface

1255 Ole: Member not found
1256 Ole: Param not found
1257 Ole: Type mismatch
1258 Ole: Unknown name
1259 Ole: No named args
1260 Ole: Bad variable type
1261 Ole: Exception
1262 Ole: Overflow
1263 Ole: Bad index
1264 Ole: Unknown LCID
1265 Ole: Array is locked
1266 Ole: Bad param count
1267 Ole: Param not optional
1268 Ole: Bad callee
1269 Ole: Not a collection
1270 Ole: IO error
1271 Ole: Compile error
1272 Ole: Cannot create tempfile
1273 Ole: Illegal index
1274 Ole: Id not found
1275 Ole: Buffer too small
1276 Ole: Read only
1277 Ole: Invalid data read
1278 Ole: Unsupported format
1279 Ole: Already contains name
1280 Ole: No matching arity
1281 Ole: Registry access problem
1282 Ole: Lib not registered
1283 Ole: Duplicate definition
1284 Ole: Usage
1285 Ole: Dest not known
1286 Ole: Undefined type
1287 Ole: Qualified name disallowed
1288 Ole: Invalid state
1289 Ole: Wrong type kind
1290 Ole: Element not found
1291 Ole: Ambiguous name

1292 Ole: Invoke function mismatch
1293 Ole: DLL function not found
1294 Ole: Bad module kind
1295 Ole: Wrong platform
1296 Ole: Already being laidout
1297 Ole: Cannot load library
1298 Ole: Error code not recognised
1299 Dll: DLL file not found
1300 Dll: File not loadable
1301 DllCall: Bad Entrypoint name
1302 DllCall: Bad Global Pointer returned from called DLL
1303 IconReplace: EXE file not found
1304 IconReplace: ICO file not found
1305 IconReplace: ICO file open failed
1306 IconReplace: Invalid ICO file
1307 IconReplace: Memory Alloc Error
1308 IconReplace: EXE file open failed (in use?)
1309 IconReplace: Unrecognised EXE file
1310 IconReplace: Not a Windows EXE file
1311 IconReplace: No resources in EXE file
1312 IconReplace: New Icon is larger than old icon
1313 IconReplace: Invalid EXE file
1314 IconReplace: No icons found in EXE file
1315 SendMenusTo: Window menu not accessable
1316 SendMenusTo: MenuItem name not found
1317 SendMenusTo: PostMessage Failed
1318 Ole: WBOLExxx.DLL LoadLibrary failure
1319 OS2Sound: Could not communicate with OS2
1323 FileFullName: Filename cannot be legally expanded
1324 FileMapName: Filename cannot be legally mapped to mask
1330 BinaryRead: File size larger than binary buffer size
1334 WinItemChild: Parent Window cannot be found
1335 IniPrivate functions: Illegal to access [386Enh] Device= keywords
1336 Ask Multiple: More than 99 items selected. Too Many.
1337 AskFileName: Dialog Box creation error
1341 FP Math: Argument to function outside domain of function
1342 FP Math: Result is too large to be represented

1343 FP Math: Partial loss of significance occurred
1344 FP Math: Illegal value passed to function. (Singularity)
1345 FP Math: Total loss of significance occurred
1346 FP Math: Result too small to be represented
1347 FP Math: Undocumented library error passed to matherr
1348 FP Math: Non-Integer Power of Negative Number is not defined
1349 FP Math: Square Root of a Negative Number
1350 FP Math: Cannot Take Log of Zero or a Negative Number
1351 FP Math: Fact args must be positive whole numbers <=170
1368 ActivateChild: Child windows does not exist
1369 DllCall: Invalid DllName as Param1
1370 DllCall: Invalid DllEntryPoint
1371 DllCall: Bad punctuation found
1372 DllCall: Too many parameters (max 2 + 15 args)
1373 DllCall: Must have at least 3 parameters
1374 DllCall: Number of DLL parameters and type string do not agree
1375 DllCall: Parameter cannot be forced to 'SHORT'
1376 DllCall: Parameter cannot be forced to 'LONG'
1377 DllCall: Return type invalid - WORD LONG or LPSTR
1378 DllCall: Bad parm code. Only WORD, LONG, LPSTR, LPBINARY or LPNULL
1379 DllCall: Bad type list caused stack problems. Check types carefully.
1380 DllCall: Missing ':' after type code
1381 DllCall: Param cannot be converted to string for LPSTR
1388 Request Ignored: NT Security violation
1389 FileCompare: FileOpen failure - First File
1390 FileCompare: FileOpen failure - Second File
1404 FileCopy: Insufficient free space on target drive
1405 FileMove: Insufficient free space on target drive
1406 FileAppend: Insufficient free space on target drive
1407 IntControl 29: Invalid delimiter character
1408 "WinIdGet: Window not found"
1409 "Shortcut functions require Windows 95"
1410 "Shortcut functions: Shortcut files must have an extension of '.LNK'"
1411 "Shortcut functions: Shortcut file not found"
1412 "ShortcutMake: Shortcut file already exists"
1413 "Shortcut Make/Edit: Invalid show mode"
1414 "ShortcutExtra: Invalid hotkey"

1415 "Shortcut functions: CoInitialize failed"
1416 "Shortcut functions: CoCreateInstance failed"
1417 "Shortcut functions: QueryInterface failed"
1418 "Shortcut functions: Error loading shortcut file"
1419 "Shortcut functions: Error reading shortcut file"
1420 "Shortcut functions: Error saving shortcut file"
1421 "DirAttrGet: Directory not found"
1422 "DirAttrSet: Directory not found or access denied"
1423 "FileNameLong: File not found"
1424 "FileNameShort: File not found"
1425 "WIL Internal Error"
1426 "IntControl 30: Source file not found"
1427 "IntControl 30: Error parsing target spec"
1428 "IntControl 30: Cannot move file to a different drive"
1429 "RegApp: Function not supported in 16-bit version"
1430 "RegApp: File not found"
1431 "RegApp: Error writing to registry"
1432 "RegDelValue: Function not supported in 16-bit version"
1433 "InstallFile: Function not supported in 16-bit version"
1434 "InstallFile: Source file not found (or not specified)"
1435 "InstallFile: Target file name cannot contain a path"
1436 "InstallFile: Target directory not found (or not specified)"
1438, "WinSysInfo: Function not supported in 16-bit version"
1439, "Mouse Functions: Invalid click-type"
1440, "Mouse Functions: Unable to determine window containing mouse"
1441, "Mouse Functions: Child window specified with no parent"
1442, "Mouse Functions: Parent window not found"
1443, "Mouse Functions: Child window not found"
1444, "MouseClickBtn: Button not found"
1445, "IconReplace: Unable to create file mapping"
1446, "IconReplace: Unable to map view of file"
1447, "IconReplace: New icon is smaller than old icon"
1448, "IntControl 32: Invalid data type"
1449, "ShellExecute: Error launching specified file"
1450, "RegQueryItem: Function not supported in 16-bit version"
1451, "RegQueryItem: Unable to open specified subkey"
1452, "REG Functions: Unable to open (or create) specified subkey"

1453, "RegQueryValue: Binary data found. Use RegQueryBin instead."
1454, "RegQueryBin: Data is not binary"
1455, "RegQueryBin: Unable to allocate or lock memory"
1456, "RegQueryDword: Data is not a DWORD"
1457, "RegSetBin: Invalid binary value string"
1458, "RegSetBin: Binary value string too long"
1459, "RegSetDword: Invalid DWORD value"
1460, "REG functions: Subkey string too long"
1461, "TimeJulToYmd: Invalid Julian date"
1462, "TimeSubtract: Cannot subtract supplied times"
1463, "TimeSubtract: Time parameter error - bad value"
1464, "IntControl 36: Window not found"
1465, "IgnoreInput: Function not supported in 32-bit version"

If the error mode is **@NOTIFY** or **@OFF**, the user has the option of continuing with the WIL program or canceling it.

2001 SendKey: Illegal Parameters

2038 WinCloseNot Function Syntax error

2058 StrCat: Function syntax error

2060 AVERAGE function syntax error

2093 Dialog Box: Bad Filespec, using *.*

2106 SetDisplay: Type not NAME, DATE, SIZE, KIND or UNSORTED

2112 FileSize: File Not Found

2118 FileCopy/Move: Destination file same as source

2120 SetDisplay: Display type not SHORT or LONG

2122 FileAppend: Target cannot be wildcarded

2203 Dir Rename: 'From' file illegal

2204 Dir Rename: 'To' file illegal

2214 Cmd Extender: Moderate Error Occurred

2331 BinaryStrGet: Data request extends beyond end of binary buffer

2332 BinaryStrSet: Data to store would overrun binary buffer

2392 DllLoad: Too many open DllLoads

Fatal errors cause the current WIL program to be canceled with an error message, regardless of the error mode in effect. (We show the error codes here for consistency, but in practice you will never be able to call **LastError** after a fatal error).

3023 BinaryData: Invalid Binary Data handle passed
3024 BinaryData: Too many open Binary Data Handles
3026 LogDisk: Illegal disk drive
3027 LogDisk: DOS reports no disks!! ???
3032 GoTo unable to lock memory for batch file
3033 GoTo label not found
3046 Internal Error 3046. Function not defined
3047 Variable name over 30 chars. Too Long
3048 Substitution %Variable% not followed by a % (Use %% for %)
3049 No variables exist??!!
3050 No IF to relate to THEN or ELSE is currently valid
3051 Undefined variable or function
3052 Uninitialized variable or undefined function
3053 Character string too long (>256 chars??)
3054 Unrecognizable item found on line
3055 Variable name over 30 chars. Too Long
3056 Variable could not be converted to string
3057 Variable could not be converted to a valid number
3059 Illegal Bounds for STRSUB function
3061 Illegal Syntax
3062 Attempt to divide by zero
3063 Binary operation not legal for type of number
3064 Unary operation not legal for type of number
3065 Unbalanced Parenthesis
3066 Wrong Number of Arguments in Function
3067 Function Syntax. Opening parenthesis missing.
3068 Function Syntax. Illegal delimiter found.
3069 Bad assignment statement. (Use == for equality testing)
3070 Internal error 3070. Too many arguments defined.
3071 Missing or incomplete statement
3072 THEN not found in IF statement
3073 Goto Label not specified

3074 Expression continues past expected end.
3075 Call: Parse of file/parameter line failed
3076 FileOpen: READ or WRITE not properly specified
3078 FileOpen: Too many (>5) files open
3079 FileClose: Invalid file handle
3080 FileClose: File not currently open
3081 FileRead: Invalid file handle
3082 FileRead: File not currently open
3084 FileWrite: Invalid file handle
3085 FileWrite: File not currently open
3087 FileRead: File not open for reading
3088 FileRead: Attempt to read past end of file
3089 FileWrite: File not open for writing
3090 Dialog Box: File open error
3091 Dialog Box: Box too large (20x60 max)
3092 Dialog Box: Non-text control used w/filebox.
3094 Dialog Box: Window Registration Failed
3095 Compare: Not an integer or string compare
3096 Memory allocation failure. Out of memory for strings
3097 Memory allocation failure. Out of memory for variables
3098 IntErr: NULL pointer passed to xstrxxx subroutines
3099 CallExt function disabled. Not currently available.
3101 Substituted line too long. (> 256 characters)
3102 Drop: Can only drop variables
3103 IsDefined: Attempting to test non-variable item
3104 Dialog Box: Window Creation Failed
3105 CALL and CALLEXT not supported in compiled versions
3107 Run: Filetype is not COM, EXE, PIF or BAT
3108 FileItemize: Unable to lock file info segment
3109 FileItemize: Unable to unlock file info segment
3110 FileItemize: Unable to lock file index segment
3111 FileItemize: Unable to unlock file index segment
3113 FileSize: Filelength I/O Error
3114 FileSize: Buffer Overrun Error
3115 FileDelete: Buffer Overrun Error
3116 FileRename: Buffer Overrun Error
3117 FileCopy/Move: Buffer Overrun Error

3123 WaitForKey: Invalid key codes specified
3124 WinMetrics: Invalid code
3127 BinaryEODSet: Set value beyond end of buffer
3130 OleTerminate: Bad Ole Channel
3131 OleExecute: Bad Ole Channel
3132 Ole: Ole has not been initialized
3135 OleExecute: Syntax Error - Needs more parameters
3136 DDEInitiate: Undefined Error
3137 DDEInitiate: Nobody Around to talk to
3138 DDEInitiate: Too many DDE conversations
3139 DDEInitiate: Bad Channel Number
3140 DDEInitiate: Create String Failure
3142 DDETerminate: Channel does not exist
3145 DDEExec: GlobalAlloc failed
3146 DDEExec: Global Lock failed
3147 DDEExec: Bad channel number
3148 OleInitiate: Application does not support Ole
3149 DDEExec: Internal Error 3149
3151 DDEReq: Undefined Error
3152 DDEReq: Bad channel number
3153 DDEReq: Null handle returned
3154 DDEReq: Create String Failed
3156 DDEReq: GlobalLock failed
3157 OleInitiate: Too many open channels
3160 DDEPoke: GlobalAlloc failed
3161 DDEPoke: GlobalAddAtom failed
3162 DDEPoke: GlobalLock failed
3167 DDE Recv Data: GlobalLock 1 failed
3168 DDE Recv Data: GlobalAlloc 2 failed
3169 DDE Recv Data: GlobalLock 2 failed
3170 DDEInitiate: Internal Error 3170
3171 IntControl: Invalid IntControl opcode
3196 PlayMedia: Do not use WAIT or NOTIFY in MCI string
3197 WinResources: Invalid request number
3198 WinParmGet/Set: Invalid request number
3199 WinPlaceGet/Set: Invalid window-size number
3202 WinPlaceSet: Wrong number of window co-ordinates

3205 MouseInfo: Invalid request number
3206 SnapShot: Invalid request number
3210 Cmd Extender: Out of memory to save result
3211 Call: More than 6 levels of Calls
3212 PlayMedia: Notify Window creation failed
3215 Cmd Extender: Severe error occurred
3218 Dialog: Dialog name too long (>16 chars)
3219 Dialog: Format variable missing
3220 Dialog: Format version not supported
3221 Dialog: x, y, width or height variables bad
3222 Dialog: Control definition variable missing
3223 Dialog: Bad Control type in definition variable
3224 Dialog: Bad or missing Value for Radio/Checkbox button
3225 Dialog: Too many items in definition variable
3228 Function not available in Windows NT
3234 RunExit: Not EXE, COM or BAT file
3235 RunExit: EXE name too long (max 127)
3236 RunExit: Params too long (max 126)
3237 RunEnviron: Params too long (max 119)
3238 RunEnviron: EXE file NOT a Windows file
3239 RunExit: Cannot locate file to run
3243 Ole Object: Object Name too long
3244 Ole Object: Property name too long
3245 Ole Object: Method name too long
3246 Ole Object: Object does not exist
3247 Ole Object: Method has more parameters then WIL supports
3250 Ole Object: Problem occurred when formatting parameters
3252 RunExit: Not supported under Windows NT (No DOS)
3320 EvalDisk: Disk Drive specification error
3321 EvalDisk: Internal Error 1
3322 File Name Parsing: Function does not allow wildcards
3325 BinaryPeekPoke: Offset is beyond end of binary buffer
3326 BinaryPoke: Value to poke is outside the 8 bit range
3327 BinaryCopy: Offset(s) beyond end of binary buffer(s)
3328 BinaryCopy: Data to be copied will not fit in buffer
3329 BinaryCopy: Data to copy extends beyond end of buffer
3333 BinaryIndex: Offset is beyond end of binary buffer

3338 FP Math: Illegal floating point number. Too many dots.
3339 FP Math: Illegal floating point number. Too many E's.
3340 FP Math: Variable could not be converted to floating point
3352 Internal Error: Command or Structop not defined
3353 Struct Error: Nesting of structures is too complex
3354 END Error: No matching End found
3355 STRUCT Error: 'Break' not in a Structure
3356 STRUCT Error: 'Continue' not in a Structure
3357 End Error: No match found
3358 Else Error: No matching If found
3359 Break/Continue: Not in a While, Switch, or For structure
3360 For Error: Bad Syntax. e.g. 'For x = 1 to 10'
3361 For Error: For counters must be numbers, not strings
3362 Misplaced 'TO' found without a DoFor
3363 Unidentified 'END': Must be followed by If, While, Switch or For
3364 SWITCH/CASE Error: Switch/Case can only accept integers
3365 CASE Error: No matching Switch found
3366 AskBox Error: Single/Multiple value incorrect
3367 AskBox Error: Sorted/Unsorted value incorrect
3382 DllCall: Internal Error - cannot accept lpbinary return
3383 Execute function error: 'Wait' parameter bad
3384 Execute function error: 'Display type' parameter bad
3385 DiskExist: Invalid Disk Argument. Try a single letter
3386 IniItemize: Null section name not valid in NT
3387 ShellPrint: @WAIT not supported in NT
3391 DllFree: Bad Dll handle passed. Must use handle returned by DllLoad
3393 AddExtender: Too many extenders added
3394 AddExtender: Extender dll not found
3395 AddExtender: Not a valid extender
3396 AddExtender: Extender table full
3437, "AddExtender: Extender DLL load failed (make sure 16/32-bit type matches WIL)"

About**( )**

Displays the About message box.

Abs**(integer)**

Returns the absolute value of a number.

Acos**(fp_num)**

Calculates the arccosine.

AddExtender**(dllfilename)**

Installs a WIL extender Dll.

AppExist**(program-name)**

Tells if an application is running.

AppWaitClose**(program-name)**

Suspends WIL program execution until a specified application has been closed.

Asin**(fp_num)**

Calculates the arcsine.

AskFileName**(title, directory, filetypes, default filename, flag)**

Returns the filename as selected by a FileOpen dialog box.

AskFileText**(title, filename, sort mode, select mode)**

Allows the user to choose an item from a list box initialized with data from a file.

AskItemList**(title, list, delimiter, sort mode, select mode)**

Allows the user to choose an item from a list box initialized with a list variable.

AskLine**(title, prompt, default answer)**

Lets the user enter a line of information.

AskPassword**(title, prompt)**

Prompts the user for a password.

AskYesNo**(title, question)**

Lets the user choose from Yes, No, or Cancel.

Atan**(fp_num)**

Calculates the arc tangent.

Average**(number [,number...])**

Returns the average of a list of numbers.

Beep

Beeps at the user.

Binary Operations

BinaryAlloc**(buffsize)**

Allocates a memory buffer of the desired size.

BinaryCopy**(handle targ, offset targ, handle src, offset src, bytecount)**

Copies bytes of data from one binary buffer to another.

BinaryEodGet**(handle)**

Returns the offset of the free byte just after the last byte of stored data.

BinaryEodSet**(handle, offset)**

Sets the EOD value of a buffer.

BinaryFree**(handle)**

Frees a buffer previously allocated with Binary Alloc.

BinaryIndex**(handle, offset, search string, direction)**

Searches a buffer for a string.

BinaryIndexNC**(handle, offset, string, direction)**

Searches a buffer for a string. (case insensitive)

BinaryPeek**(handle, offset)**

Returns the value of a byte from a binary buffer.

BinaryPeekStr**(handle, offset, maxsize)**

Extracts a string from a binary buffer.

BinaryPoke**(handle, offset, value)**

Pokes a new value into a binary buffer at offset.

BinaryPokeStr**(handle, offset, string)**

Writes a string into a binary buffer.

BinaryRead**(handle, filename)**

Reads a file into a binary buffer.

BinaryStrCnt**(handle, start-offset, end-offset, string)**

Counts the occurrences of a string in some or all of a binary buffer.

BinaryWrite**(handle, filename)**

Writes a binary buffer to a file.

Break

Used to exit a conditional flow control statement.

ButtonNames**(Ok-name, Cancel-name)**

Changes the names of the buttons which appear in WIL dialogs.

Call**(WIL filename, parameters)**

Calls a WIL batch file as a subroutine.

Ceiling**(fp_num)**

Calculates the ceiling of a value.

Char2Num**(string)**

Returns the ANSI code of a string's first character.

ClipAppend**(string)**

Appends a string to the end of the Clipboard.

ClipGet**( )**

Returns the Clipboard contents into a string.

ClipPut**(string)**

Replaces the Clipboard contents with a string.

Continue

Transfers control to the beginning of a For or While loop or to a different case statement.

Cos**(fp_num)**

Calculates the cosine.

Cosh**(fp_num)**

Calculates the hyperbolic cosine.

CurrentFile {*M}**( )**

Returns the filename of the selected item.

CurrFilePath {*M}**( )**

Returns the path and full filename of the selected item.

CurrentPath {*M}**( )**

Returns the path of the selected item.

DateTime

Provides the current date and time.

DDEExecute**(channel, [commandstring])**

Sends commands to a DDE server application.

DDEInitiate**(app name, topic name)**

Opens a DDE channel.

DDEPoke**(channel, item name, item value)**

Sends data to a DDE server application.

DDERequest**(channel, item name)**

Gets data from a DDE server application.

DDETerminate**(channel)**

Closes a DDE channel.

DDETimeout**(value in seconds)**

Sets the DDE time-out value.

Debug**(mode)**

Turns the Debug mode on or off.

DebugData**(string, string)**

Writes data via the Windows OutputDebugString function to the default destination.

Decimals**(#digits)**

Sets the number of decimal points used with floating point numbers.

Dialog**(dialog-name)**

Displays a user-defined dialog box.

DirAttrGet**([d:]path)**

Gets directory attributes.

DirAttrSet**(dir-list, settings)**

Sets directory attributes.

DirChange**([d:]path)**

Changes the current directory.

DirExist**(pathname)**

Determines if a directory exists.

DirGet**( )**

Returns the current directory path.

DirHome**( )**

Returns the initial directory path.

DirItemize**(dir-list)**

Builds a list of directories.

DirMake**([d:]path)**

Creates a new directory.

DirRemove**(dir-list)**

Removes an existing directory.

DirRename**([d:]oldpath, [d:]newpath)**

Renames a directory.

DirWindows**(request#)**

Returns the name of the Windows or Windows System directory.

DiskExist**(drive letter)**

Tests for the existence of a drive.

DiskFree**(drive-list)**

Returns the amount of free space on a set of drives.

DiskScan**(request#)**

Returns a list of drives.

Display**(seconds, title, text)**

Momentarily displays a string.

DllCall**(dllfilename/dllhandle, returntype:entrypoint [,paramtype:param...])**

Calls an external Dll.

DllCall Additional information

DllFree**(dllhandle)**

Frees a Dll that was loaded via the DllLoad function.

DllHinst**(partial-winname)**

Obtains an application instance handle for use in DllCall's when required.

DllHwnd**(partial-winname)**

Obtains a window handle for use in DllCall's when required.

DllLoad**(dllname)**

Loads a Dll for later use via the DllCall function.

DOSVersion**(level)**

Returns the version numbers of the current version of DOS.

Drop**(varname [,varname...])**

Deletes variables to recover their memory.

EndSession**( )**

Ends the current Windows session.

Environment**(env-variable)**

Gets a DOS environment variable.

EnvironSet**(env-varname, newvalue)**

Changes LOCAL Environment variables.

EnvItemize**( )**

Returns a delimited list of the current environment.

ErrorMode**(mode)**

Sets what happens in the event of an error.

Exclusive**(mode)**

Controls whether or not other Windows programs will get any time to execute.

Execute**statement**

Directly executes a WIL statement.

ExeTypeInfo**(exefilename)**

Returns an integer describing the type of EXE file specified.

Exit

Unconditionally ends a WIL program.

Exp**(fp_num)**

Calculates the exponential.

Fabs**(fp_num)**

Calculates the absolute value of a floating-point argument.

FileAppend**(source-list, destination)**

Appends one or more files to another file.

FileAttrGet**(filename)**

Returns file attributes.

FileAttrSet**(file-list, settings)**

Sets file attributes.

FileClose**(filehandle)**

Closes a file.

FileCompare**(filename1, filename2)**

Compares two files.

FileCopy**(source-list, destination, warning)**

Copies files.

FileDelete**(file-list)**

Deletes files.

FileExist**(filename)**

Test for the existence of files.

FileExtension**(filename)**

Returns the extension of a file.

FileFullName**(partial filename)**

Returns a file name with drive and path information.

FileItemize**(file-list)**

Builds a list of files.

FileLocate**(filename)**

Finds a file within the current DOS path.

FileMapName**(filename, mapping-data)**

Transforms a filename with a file wild-card mask and returns a new filename.

FileMove**(source-list, destination, warning)**

Moves files to another set of path names.

FileNameLong {*32}**(filename)**

Returns the long version of a filename.

FileNameShort {*32}**(filename)**

Returns the short (ie, 8.3) version of a filename.

FileOpen**(filename, mode)**

Opens a STANDARD ASCII (only) file for reading or writing.

FilePath**(filename)**

Returns path of a file.

FileRead**(filehandle)**

Reads data from a file.

FileRename**(source-list, destination)**

Renames files to another set of names.

FileRoot**(filename)**

Returns root of a file.

FileSize**(file-list)**

Adds up the total size of a set of files.

FileTimeCode**(filename)**

Returns a machine readable/computable code for a file time.

FileTimeGet**(filename)**

Returns file date and time.

FileTimeSet**(list, ymdhms)**

Sets the date and time of one or more files.

FileTimeTouch**(file-list)**

Sets file(s) to current time.

FileWrite**(handle, output-data)**

Writes data to a file.

FileYmdHms**(filename)**

Returns a file time in the YmdHms date/time format.

Floor**(fp_num)**

Calculates the floor of a value.

For **varname = initial value to final value [by increment]**

Controls the looping of a block of code base in an incrementing index.

GetExactTime**( )**

Returns the current time in hundredths of a second.

GetTickCount**( )**

Returns the number of clock ticks used by Windows since Windows started.

GoSub

Transfers control of WIL processing while saving location of the next statement.

Goto**label**

Changes the flow of control in a WIL program.

IconArrange**( )**

Rearranges icons.

IconReplace**(filename, iconfilename)**

Replaces an existing icon with a new icon.

If ... Else ... Endif**expression**

Conditionally performs a function.

IgnoreInput**(mode)**

Turns off hardware input to windows.

IniDelete**(section, keyname)**

Removes a line or section from WIN.INI.

IniDeletePvt**(section, keyname, filename)**

Removes a line or section from a private INI file.

IniItemize**(section)**

Lists keywords or sections in WIN.INI file.

IniItemizePvt**(section, filename)**

List keywords or sections in a private INI file.

IniRead**(section, keyname, default)**

Reads a string from the WIN.INI file.

IniReadPvt**(section, keyname, default, filename)**

Reads a string from a private INI file.

IniWrite**(section, keyname, data)**

Writes a string to the WIN.INI file.

IniWritePvt**(section, keyname, data, filename)**

Writes a string to a private INI file.

InstallFile**(filename, targname, default-targdir, delete-old, flags)**

Installs a file.

Int**(string/fp_num)**

Converts a floating point number or a string to an integer.

IntControl**(request#, p1, p2, p3, p4)**

Special function which permits an internal operation.

IsDefined**(variable name)**

Determines if a variable name is currently defined.

IsFloat**(value)**

Tests whether a number can be converted to a floating point number.

IsInt**(string)**

Tests whether a number can be converted into a valid number.

IsKeyDown**(keycode)**

Determines if the Shift key or the Ctrl key is currently down.

IsLicensed**( )**

Tells if the calling application is licensed.

IsMenuChecked {*M}**(menuname)**

Determines if a menu item has a check mark next to it.

IsMenuEnabled {*M}**(menuname)**

Determines if a menu item has been enabled.

IsNumber**(value)**

Determines if a string represents a valid number.

ItemCount**(list, delimiter)**

Returns the number of items in a list.

ItemExtract**(index, list, delimiter)**

Returns the selected item from a list.

ItemInsert**(item, index, list, delimiter)**

Adds an item to a list.

ItemLocate**(item, list, delimiter)**

Returns the position of an item in a list.

ItemRemove**(index, list, delimiter)**

Removes an item from a list.

ItemSelect

Allows the user to choose an item from a list box.

ItemSort**(list, delimiter)**

Sorts a list.

KeyToggleGet**(@key)**

Returns the status of a toggle key.

KeyToggleSet**(@key, value)**

Sets the state of a toggle key and returns the previous value.

LastError**( )**

Returns the last error encountered.

Log10**(fp_num)**

Calculates the base-10 logarithm.

LogDisk**(drive letter)**

Logs (activates) a disk drive.

LogE**(fp_num)**

Calculates the natural logarithm.

Max**(number [,number...])**

Determines the highest number in a list.

MenuChange {*M}**(menuname, flags)**

Checks, unchecks, enables, or disables a menu item.

Message**(title, text)**

Displays text in a message box.

Min**(number [,number...])**

Determines the lowest number in a list.

MouseClick**(click-type, modifiers)**

Clicks mouse button(s).

MouseClickBtn**(parent-windowname, child-windowname, button-text)**

Clicks on the specified button control.

MouseInfo**(request#)**

Returns assorted mouse information.

MouseMove**(X, Y, parent-windowname, child-windowname)**

Moves the mouse to the specified X-Y coordinates.

MsgTextGet**(window-name)**

Returns the contents of a Windows message box.

Net101

NetInfo**(requestcode)**

Determines network(s) installed.

Num2Char**(integer)**

Converts a number to its character equivalent.

Object101, Ole 2.0, and Applications

ObjectClose**(objecthandle)**

Closes OLE 2.0 automation object.

ObjectOpen**(objectname)**

Opens or creates an OLE 2.0 automation object.

ParseData**(string)**

Parses a passed string.

Pause**(title, text)**

Displays Text in a message box.

PlayMedia**(command-string)**

Controls multimedia devices.

PlayMidi**(filename, mode)**

Plays a MID or RMI sound file.

PlayWaveForm**(filename, mode)**

Plays a WAV sound file.

Print**(data file, directory, display mode, waitflag)**

Instructs an application associated to a file to print the file on the default printer.

Random**(integer)**

Generates a positive random number.

Registration Database Operations

RegApp {*32}**(program-name, path)**

Creates registry entries for a program under "App Paths".

RegCloseKey**(keyhandle)**

Closes a key to the registration database.

RegCreateKey**(keyhandle, sub-key string)**

Returns a handle to a new registration database key.

RegDeleteKey**(keyhandle, sub-key string)**

Deletes a key and data items associated with the key.

RegDelValue {*32}**(handle, subkey-string)**

Deletes a named value data item for the specified subkey from the registry.

RegOpenKey**(keyhandle, sub-key string)**

Returns a handle to an existing registration database key.

RegQueryBin {*32}**(handle, subkey-string)**

Returns binary value at subkey position.

RegQueryDword {*32}**(handle, subkey-string)**

Returns DWORD value at subkey position.

RegQueryItem {*32}**(handle, subkey-string)**

Returns a list of named data items for a subkey.

RegQueryKey**(keyhandle, index)**

Returns sub keys of the specified key.

RegQueryValue**(keyhandle, keyname)**

Returns data item string at sub-key position.

RegSetBin {*32} **(handle, subkey-string, value)**

Sets a binary value in the Registration Database.

RegSetDword {*32} **(handle, subkey-string, value)**

Sets a DWORD value in the Registration Database.

RegSetValue**(keyhandle, sub-key string, value)**

Sets the value of a data item in the registration database.

Reload {*M}

Reloads menu file(s).

Return

Returns from a Call to the calling program or from a GoSub :label.

Run**(program-name, parameters)**

Runs a program as a normal window.

RunEnviron**(program-name, parameters, displaymode, waitflag)**

Launches a program in the current environment as set with the EnvironSet command.

RunExit**(program-name, parameters)**

Exits Windows, runs a DOS program or batch file then restarts windows when DOS is finished.

RunHide**(program-name, parameters)**

Runs a program as a hidden window.

RunHideWait**(program-name, parameters)**

Runs a program in a hidden window and waits for it to close.

RunIcon**(program-name, parameters)**

Runs a program as an icon.

RunIconWait**(program-name, parameters)**

Runs a program as an icon and waits for it to close.

RunShell**(program-name, params, directory, displaymode, waitflag)**

Runs a program via the Windows ShellExecute Command.

RunWait**(program-name, parameters)**

Runs a program as a normal window and waits for it to close.

RunZoom**(program-name, parameters)**

Runs a program in a maximized window.

RunZoomWait**(program-name, parameters)**

Runs a program in a maximized window and waits for it to close.

Select**varname**

Allows selection among multiple blocks of statements.

SendKey**(sendkey-string)**

Sends keystrokes to the currently active window.

SendKeysChild**(partial-parent-windowname, partial-child-windowname, sendkey-string)**

Sends keystrokes to the active child window.

SendKeysTo**(partial-parent-windowname, sendkey-string)**

Sends keystrokes to a "windowname".

SendMenusTo**(partial-parent-windowname, menuname)**

Activates a window and sends a specified menu option.

ShellExecute **(program-name, params, directory, display mode, operation)**

Runs a program via the Windows ShellExecute command

ShortcutEdit {*95}**(link-name, target, params, start-dir, show-mode)**

Modifies the specified shortcut file.

ShortcutExtra {*95}**(link-name, description, hotkey, icon-file, icon-index)**

Sets additional information for the specified shortcut file.

ShortcutInfo {*95}**(link-name)**

Returns information on the specified shortcut file.

ShortcutMake {*95}**(link-name, target, params, start-dir, show-mode)**

Creates a Windows 95 shortcut for the specified filename or directory.

Sin**(fp_num)**

Calculates the sine.

Sinh**(fp_num)**

Calculates the hyperbolic sine.

SnapShot**(request#)**

Takes a snapshot of the screen and pastes it to the clipboard.

Sounds**(request#)**

Turns sounds on or off.

Sqrt**(fp_num)**

Calculates the square root.

StrCat**(string [,string])**

Concatenates strings together.

StrCharCount**(string)**

Counts the number of characters in a string.

StrCmp**(string1, string2)**

Compares two strings.

StrFill**(filler, length)**

Builds a string from a repeated smaller string.

StrFix**(base-string, pad-string, length)**

Pads or truncates a string to a fixed length.

StrFixChars**(base-string, pad-string, length)**

Pads or truncates a string To a fixed length using characters.

StriCmp**(string1, string2)**

Compares two strings without regard to case.

StrIndex**(string, sub-string, start, direction)**

Locates a string within a larger string.

StrLen**(string)**

Returns the length of a string.

StrLower**(string)**

Converts a string to all lower-case characters.

StrReplace**(string, old, new)**

Replaces all occurrences of a sub-string with another.

StrScan**(string, delimiters, startpos, direction)**

Finds an occurrence of one or more delimiter characters in a string.

StrSub**(string, startpos, length)**

Returns a sub-string from within a string.

StrTrim**(string)**

Trims leading and trailing blanks from a string.

StrUpper**(string)**

Converts a string to all upper-case characters.

Switch**varname**

Allows selection among multiple blocks of statements.

Tan**(fp_num)**

Calculates the tangent.

Tanh**(fp_num)**

Calculates the hyperbolic tangent.

Terminate**(expression, title, message)**

Conditionally ends a WIL program.

TextBox**(title, filename)**

Displays a file in a list box on the screen and returns the selected line.

TextBoxSort**(title, filename)**

Displays a file in a sorted list box on the screen and returns the selected line.

TextSelect**(title, list, delimiter)**

Allows the user to choose an item from an unsorted list box.

TimeFunctions

TimeAdd**(YmdHms, YmdHms)**

Adds two YmdHms variables.

TimeDate**( )**

Provides the current date and time in a readable format.

TimeDelay**(seconds)**

Pauses execution for a specified amount of time.

TimeDiffDays**(Ymd[Hms], Ymd[Hms])**

Returns the difference in days between the two dates.

TimeDiffSecs**(YmdHms, YmdHms)**

Returns the time difference in seconds between the two date times.

TimeJulianDay**(Ymd[Hms])**

Returns the julian day given a date/time.

TimeJulToYmd**(julian-date)**

Returns the Julian day given a datetime.

TimeSubtract**(datetime, datetime difference)**

Subtracts one YmdHms variable from another.

TimeWait**(YmdHms)**

Pauses execution and waits for the date/time to pass.

TimeYmdHms**( )**

Returns current date/time in the date/time format.

Version**( )**

Returns the version of the parent program currently running.

VersionDLL**( )**

Returns the version of the WIL interpreter currently running.

WaitForKey**(key, key, key, key, key)**

Waits for a specific key to be pressed.

WallPaper**(bmp-filename, tilemode)**

Changes the Windows wallpaper.

While **expression**

Conditionally and/or repeatedly executes a series of statements.

WinActivate**(partial-winname)**

Makes an application window the active window.

WinActivChild**(partial-parent-windowname, partial-child-windowname)**

Activates a previously running child window.

WinArrange**(style)**

Arranges all running application windows on the screen.

WinClose**(partial-winname)**

Closes an application window.

WinCloseNot**(partial-winname [,partial-winname])**

Closes all application windows except those specified.

WinExeName**(partial-winname)**

Returns the name of the executable file which created a specified window.

WinExist**(partial-winname)**

Tells if a window exists.

WinExistChild**(partial-parent-windowname, partial-child-windowname)**

Tells if a specified child window exists.

WinGetActive**( )**

Gets the title of the active window.

WinHelp**(helpfile, function, keyword)**

Calls a Windows help file.

WinHide**(partial-winname)**

Hides an application window.

WinIconize**(partial-winname)**

Turns an application window into an icon.

WinIdGet**(partial-winname)**

Returns a unique "Window ID" (pseudo-handle) for the specified window name.

WinIsDOS**(partial-winname)**

Tells whether or not a particular window is a DOS or console-type window.

WinItemChild**(partial-parent-windowname)**

Returns a list of all the child windows under this parent.

WinItemize**( )**

Lists all the main windows currently running.

WinItemNameId**( )**

Returns a list of all open windows and their Window ID's.

WinMetrics**(request#)**

Returns Windows system information.

WinName**( )**

Returns the name of the window calling the WIL Interpreter.

WinParmGet**(request#)**

Returns system information.

WinParmSet**(request#, new-value, ini-control)**

Sets system information.

WinPlace**(x-ulc, y-ulc, x-brc, y-brc, partial-winname)**

Changes the size and position of an application window on the screen.

WinPlaceSet**(win-type partial-winname)**

Returns window coordinates.

WinPlaceSet**(win-type, partial-winname, position -string)**

Sets window coordinates.

WinPosition**(partial-winname)**

Returns window position.

WinResources**(request#)**

Returns information on available memory and resources.

WinShow**(partial-winname)**

Shows a window in its "normal" state.

WinState**(partial-winname)**

Returns the current state of a window.

WinSysInfo() {*32}**()**

Returns system configuration information.

WinTitle**(old-partial-winname, new-winname)**

Changes the title of an application window.

WinVersion**(level)**

Returns the version of Windows that is currently running.

WinWaitClose**(partial-winname)**

Waits until an application window is closed.

WinZoom**(partial-winname)**

Maximizes an application window to full-screen.

Yield

Pauses WIL processing so other applications can process some messages.

TRUEyesyesyesyesWIL JUMPSWILjumpyesyes31/07/95

Table of Contents

Application

A large computer program dedicated to performing a major task. It can accomplish its work alone. A utility program, in contrast, works on other programs or operating systems.

Branching

A process of first testing for the truth of a condition during execution of a computer program and then going to another location in that program based on the results of the test.

Clipboard

A temporary storage place for text or graphic data. Often used to transfer data within or between application programs. Putting information into the clipboard normally erases the prior contents. WIL has a ClipAppend feature for permitting data to be added.

Close

Remove a window and end the process that owned that window. See Hide.

Commands

Commands perform an action without receiving back a result. For instance, the Yield command relinquishes processing time to other processes without receiving any sort of a report on how successful the operation was.

Display

The action of showing information on a computer screen. The screen, itself, can also be called the "display".

DOS

Disk Operating System for personal microcomputers. Several companies produce proprietary versions of DOS It forms the operational foundation of the personal computer.

Functions

Functions perform actions and return a value that can be captured in a variable for further use.

Hide

Hide a window from view but keep the associated program running in the background. See Close.

Input

Enter information into an edit dialog box and signal the computer that the information is ready.

Introduction

The WIL programming language consists of a large number of functions and commands, which we describe in detail in this section.

We use a shorthand notation to indicate the syntax of the functions.

Function names and other actual characters you type are in **boldface**. Optional parameters are enclosed in square brackets **"[ ]"**. When
a function takes a variable number of parameters, the variable parts will be followed by ellipses **("...")**. Take, for example, string concatenation:

```
StrCat (string[, string...])
```

This says that the **StrCat** function takes at least one string parameter. Optionally, you can specify more strings to concatenate. If you do, you must separate the strings with commas.

For each function and command, we show you the **Syntax**, describe the **Parameters** (if any), the value it **Returns** (if any), a description of the function, **Example** code (shown in `Courier` type), and related functions you may want to **See Also**.

Items marked **{*M}** are available only in menu script implementations.

(i) indicates an integer parameter or return value.
(s) indicates a string parameter or return value.
(f) indicates a floating point parameter or return value.
(t) indicates special type information described in the function's text.

Macro

A sequence of operations in a computer program executed through one command.

Prompt

Request information from the operator of a computer. This is usually done in a dialog box called a "message box".

Rearrange

Change the order or position of windows on a computer screen. This is important for visibility and because the topmost window is the location where user interaction, like data entry, takes place.

Resize

Change the size of a program window on a computer display.

Run

Launch a computer program. Running a program can be simply starting it. In addition, optional information the program needs to operate can be included in a Run command.

String

Strings are lengths of text that contain characters, numbers, or both. Strings are, however, treated in the computer as text. For example, a "string" of numbers cannot be used in arithmetic operations.

WIL

Windows Interface Language: a procedural language optimized for system control operations. Can be used as a macro language common to all application programs running under Microsoft Windows versions 3.1 and above.

Windows

A system of boxes called "windows" used to represent computer programs and operations for controlling them. This system serves as an interface for personal computers. It is a product of Microsoft Corporation.

FileItemize (**file-list**)

Returns a space-delimited list of files.

This function compiles a **list** of filenames and separates the names with spaces. There are several variations we can use:

```
FileItemize("*.doc")
```

would give us a list of all files in the current directory with a DOC extension,

```
FileItemize("*.com *.exe")
```

would give us a list of all files in the current directory with a COM or EXE extension, and

```
FileItemize("*.*")
```

would give us a list of *all* files in the current directory.

Of course, we need to be able to use this list, and for that we have:

AskItemList (**title, list, delimiter, sort mode, select mode**)

Displays a list box filled with items from a list you specify in a string. The items are separated in your string by a delimiter character.

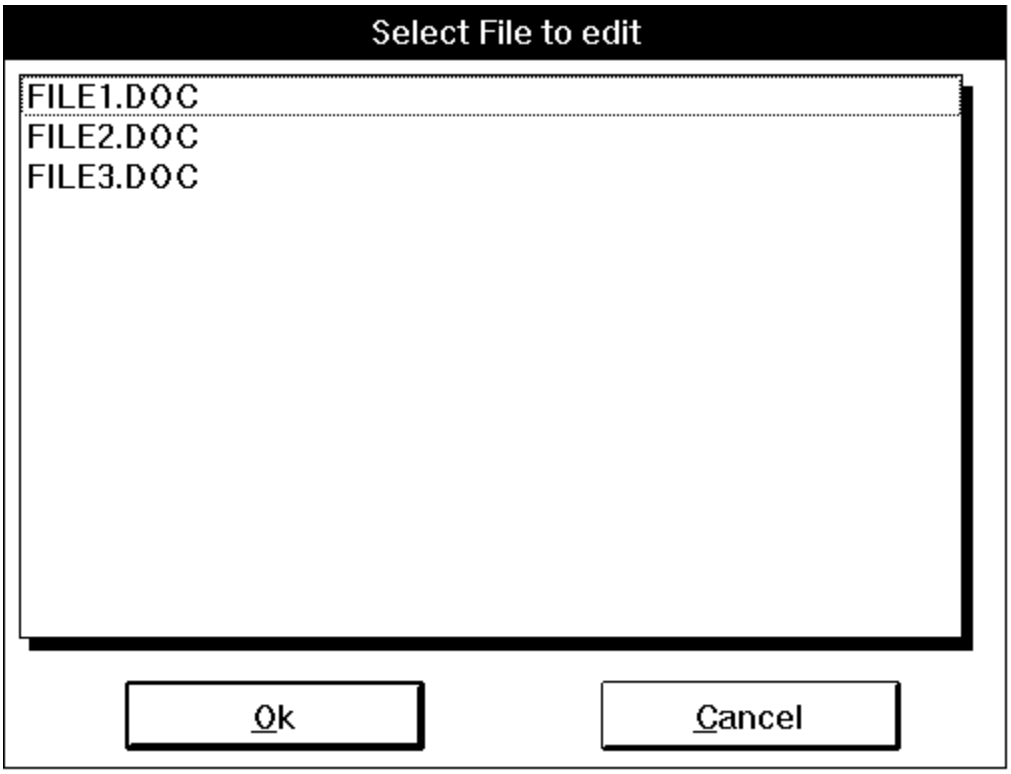
This is the function which actually displays the list box. Remember that **FileItemize** returns a file list delimited by spaces, which would look something like this:

FILE1.DOC FILE2.DOC FILE3.DOC

When we use **AskItemList**, we need to tell it that the delimiter is a space. We do this as follows:

```
files = FileItemize("*.doc *.txt")
afile = AskItemList("Select File to edit", files, " ", @unsorted, @single)
Run("notepad.exe", afile)
```

which produces:



First, we use **FileItemize** to build a list of filenames with DOC and TXT extensions. We assign this list to the variable **files**. Then, we use the **AskItemList** function to build a list box, passing it the variable **files** as its second parameter. The third parameter we use for **AskItemList** is simply a space with quote marks around it; this tells **AskItemList** that the list in variable **files** is delimited by spaces. (Note that this is different from the null string that we've seen earlier here, you must include a space between the quote marks.) Using the fourth parameter set the sort mode to choose how to display the text, sorted or unsorted. The fifth parameter sets the select mode allowing you to choose a single item or multiple items from the list. Finally, we assign the value returned by **AskItemList** to the variable **afile**, and run Notepad using that file.
In the list box, if the user presses **Enter** or clicks on the **OK** button without a file being highlighted, **AskItemList** returns a null string. If you want, you can test for this condition:

```
files = FileItemize("*.doc *.txt")
while @TRUE
   afile = AskItemList("Select File to edit", files, " ",
                  @unsorted, @single)
   If afile != "" Then break

   ;break terminates the While structure transfering control to the     ;statement
following the endwhile.
endwhile
Run("notepad.exe", afile)
```

DirItemize (**dir-list**)

Returns a space-delimited list of directories.

This function is similar to **FileItemize**, but instead of returning a list of files, it returns a list of directories. Remember we said that **FileItemize** only lists files in the current directory. Often, we want to be able to use files in other directories as well. One way we can do this by first letting the user select the appropriate directory, using the **DirItemize** and **AskItemList** combination:

```
DirChange("C:\")
subdirs = DirItemize("*.*")
targdir = AskItemList("Select dir", subdirs, " ", @sorted, @single) if targdir != ""
then DirChange(targdir)
files = FileItemize("*.*")
afile = AskItemList("Select File to edit", files, " ", @sorted, @single)
Run("notepad.exe", afile)
```

First we change to the root directory. Then we use **DirItemize** to get a list of all the sub-directories off of the root directory. Next, we use **AskItemList** to give us a list box of directories from which to select. Finally, we change to the selected directory, and use **FileItemize** and **AskItemList** to pick a file.

Although this WIL program works, it needs to be polished up a bit. What happens if the file we want is in the \WINDOWS\BATCH directory? Our WIL program doesn't go more than one level deep from the root directory. We want to continue down the directory tree, but we also need a way of telling when we're at the end of a branch. As it happens, there is such a way: **DirItemize** will return a null string if there are no directories to process. Given this knowledge, we can improve our file selection logic:

```
DirChange("C:\")
; Directory selection loop
while @TRUE              ; Loop forever til break do us part
     dirs = DirItemize("*")
     If dirs == "" Then break
     targ = AskItemList("Select dir", dirs, " ", @sorted, @single)
     If targ == "" Then break
     DirChange(targ)
endwhile
;
; File selection loop
while @TRUE              ; Loop forever til break do us part
     files = FileItemize("*.*")
     afile = AskItemList("Select File to edit", files, " ",
                         @sorted, @single)
     If afile != "" Then break
endwhile
Run("notepad.exe", afile)
```

First of all, we set up a repeating **while** loop. The "While @TRUE" will repeat the loop forever. In the loop itself we use the **break** statement to exit the loop. After we use the **DirItemize** function to try to get a list of the directories at the current level, we test the returned value for a null string. If we have a null string, then we know that the current directory has no sub-directories, and so we proceed to the file selection logic by **break**ing out of the directory selection loop. If, however, **DirItemize** returns a non-blank list, then we know that there is, in fact, at least one sub-directory. In that case, we use **AskItemList** to present the user with a list box of directories. Then, we test the value returned by **AskItemList**. If the returned value is a null string, it means that the user did not select a directory from the list, and presumably wants a file in the current directory. We happily oblige by **break**ing out of the directory selection loop. On the other hand, a non-blank value returned by **AskItemList** indicates that the user has selected a sub-directory from the list box. In that case, we change to the selected directory, and the **endwhile** causes the directory selection loop to be repeated. We continue this process until either (a) the user selects a directory, or (b) there are no directories left to select. Eventually, we move to the file selection loop.

Nicer File Selection

An even more elegant way of selecting a file name is provided by the **Dialog Editor**, which also allows the user to select various options via check boxes and radio buttons from a custom designed dialog box.

Nicer Messages

Have you tried displaying long messages, and found that WIL didn't wrap the lines quite the way you wanted? Here are a couple of tricks.

@CRLF
@TAB

@CRLF and @TAB are string constants containing, respectively, a carriage-return line-feed pair and a tab character.
We want to be able to insert a carriage return/line feed combination at the end of each line in our output, and the @CRLF string constant will let us do that.. For example, let's say we want to do this:

```
Message("", "This is line one This is line two")
```

If we just inserted the variables into the string, as in:

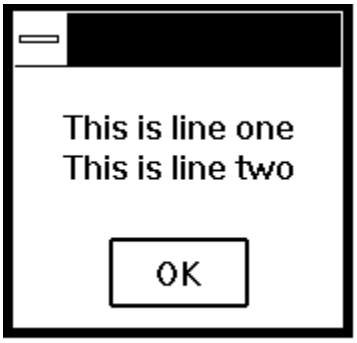
```
Message("", "This is line one @crlf This is line two")
```

we would not get the desired effect. WIL would simply treat it as ordinary text:

However, WIL does provide us with a method of performing variable and string constant substitution such as this, and that is by delimiting the variables or string constants with percentage signs (**%**). If we do this:

```
Message("", "This is line one%@crlf%This is line two")
```

we will get what we want:



Note that there is no space after **%@crlf%**; this is so that the second line will be aligned with the first line (every space within the delimiting quote marks of a string variable is significant).

yesTRUEnono&About&PrintyesyesyesyesWIL A TO K JUMP FILEWILAKyes27/10/95

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Help file produced by **HELLLP!** v2.3a , a product of Guy Software, on 10/27/95 for WILSON WINDOWWARE, INC..

The above table of contents will be automatically completed and will also provide an excellent cross-reference for context strings and topic titles. You may leave it as your main table of contents for your help file, or you may create your own and cause it to be displayed instead by using the I button on the toolbar. This page will not be displayed as a topic. It is given a context string of _._ and a HelpContextID property of 32517, but these are not presented for jump selection.

HINT: If you do not wish some of your topics to appear in the table of contents as displayed to your users (you may want them ONLY as PopUps), move the lines with their titles and contexts to below this point. If you do this remember to move the whole line, not part. As an alternative, you may wish to set up your own table of contents, see Help under The Structure of a Help File.

Do not delete any codes in the area above the Table of Contents title, they are used internally by HELLLP!

The WIL programming language consists of a large number of functions and commands, which we describe in detail in this section.

We use a shorthand notation to indicate the syntax of the functions.

Function names and other actual characters you type are in **boldface**. Optional parameters are enclosed in square brackets "**[ ]**". When a function takes a variable number of parameters, the variable parts will be followed by ellipses ("**...**").

Take, for example, string concatenation:

StrCat (string[**,** string...]**)**

This says that the **StrCat** function takes at least one string parameter. Optionally, you can specify more strings to concatenate. If you do, you must separate the strings with commas.

For each function and command, we show you the **Syntax**, describe the **Parameters** (if any), the value it **Returns** (if any), a description of the function, **Example** code (shown in `Courier` type), and related functions you may want to **See Also**.

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(f) indicates a floating point parameter or return value.
(t) indicates special type information described in the functions text.

Displays the about message box which gives program information.

Syntax:

About()

Parameters:

none

Returns:

(i) always 1.

This function displays a message box containing copyright and version information.

Example:

```
About()
```

See Also:

Version, VersionDLL

Returns the absolute value of an integer.

Syntax:

Abs (integer)

Parameters:

(i) integer — integer whose absolute value is desired.

Returns:

(i) — absolute value of integer.

This function returns the absolute (positive) value of the integer which is passed to it, regardless of whether that integer is positive or negative. If a floating point number is passed as a parameter, it will be converted to an integer.

Example:

```
dy = Abs(y1 - y2)
Message("Years", "There are %dy% years 'twixt %y1% and %y2%")
```

See Also:

Average, Fabs, IsNumber, Max, Min

Calculates the arccosine.

Syntax:

Acos(x)

Parameters:

(f) x	floating point number whose arccosine is desired.

Returns:

(f)	the Acos function returns the arccosine result of x.

The **Acos** function returns the arccosine of *x* in the range 0 to π radians. The value of *x* must be between -1 and 1, otherwise a domain error will occur.

Example:

```
real=AskLine("ArcCos", "Enter a real number between -1 and 1", "0.5")
answer=Acos(real)
Message("Arccos of %real% is",answer)
```

See Also:

Asin, Atan, Cos, Sin, Tan

Installs a WIL extender dll.

Syntax:

AddExtender(filename)

Parameters:

(s) filename	WIL extender Dll filename

Returns:

(i)	**@TRUE** if function succeeded **@FALSE** if function failed.

WIL extender Dlls are special Dlls designed to extend the built-in function set of the WIL processor. These Dlls typically add functions not provided in the basic WIL set, such as network commands for particular networks (Novell, Windows for WorkGroups, LAN Manager and others), MAPI, TAPI, and other important Application Program Interface functions as may be defined by the various players in the computer industry from time to time. These Dlls may also include custom built function libraries either by the original authors, or by independent third party developers. (An Extender SDK is available). Custom extender Dlls may add nearly any sort of function to the WIL language, from the mundane network, math or database extensions, to items that can control fancy peripherals, including laboratory or manufacturing equipment.

Use this function to install extender Dlls as required. Up to 10 extender Dlls may be added. The total number of added items may not exceed 100 functions and constants. The **AddExtender** function must be executed before attempting to use any functions in the extender library. The **AddExtender** function should be only executed once in each WIL script that requires it.

The documentation for the functions added are supplied either in a separate manual or disk file that accompanies the extender Dll.

Example:

```
; Add vehicle radar processing dll controlling billboard visible to
; motorists, and link to enforcement computers.
; The WIL Extender SPEED.DLL adds functions to read a radar speed
; detector(GetRadarSpeed) , put a message on a billboard visible to
; the motorist (BillBoard), take a video of the vehicle (Camera), and
; send a message to alert enforcement personnel (Alert) that a
; motorist in  violation along with a picture id number to help
; identify the offending vehicle and the speed which it was going.
;
AddExtender("SPEED.DLL")
BillBoard("Drive Safely")
While @TRUE
     ; Wait for next vehicle
     while GetRadarSpeed()<5  ; if low, then just radar noise
          Yield               ; wait a bit, then look again
     endwhile
     speed=GetRadarSpeed()    ; Something is moving out there
     if speed < 58
          BillBoard("Drive Safely")   ; Not too fast.
     else
```

```
            if speed < 63
                 BillBoard("Watch your Speed") ; Hmmm a hot one
            else
                 if speed < 66
                      BillBoard("Slow Down")   ; Tooooo fast
                 else
                      BillBoard("Violation  Pull Over")
                      pictnum = Camera() ; Take Video Snapshot
                      Alert(pictnum, speed); Pull this one over
                 endif
            endif
       endif
  endwhile
```

See Also:

DllCall

Tells if an application is running.

Syntax:

AppExist (program-name)

Parameters:

(s) program-name name of a Windows EXE or DLL file.

Returns:

(i) **@TRUE** if the specified application is running;
@FALSE if the specified application is not running.

Use this function to determine whether a specific Windows application is currently running. Unlike **WinExist**, you can use **AppExist** without knowing the title of the application's window.

"Program-name" is the name of a Windows EXE or DLL file, including the file extension (and, optionally, a full path to the file).

Note: This function is not available in 32 bit versions of WIL

Example:

```
If AppExist("clock.exe") == @FALSE Then Run("clock.exe", "")
```

See Also:

AppWaitClose, RunWait, RunShell, WinExeName, WinExist

Suspends WIL program execution until a specified application has been closed.

Syntax:

AppWaitClose (program-name)

Parameters:

(s) program-name name of a Windows EXE or DLL file.

Returns:

(i) **@TRUE** if the specified application is running;
@FALSE if the specified application is not running.

Use this function to suspend the WIL program's execution until the user has finished using a given application and has manually closed it. Unlike **WinWaitClose**, you can use **AppWaitClose** without knowing the title of the application's window.

"Program-name" is the name of a Windows EXE or DLL file, including the file extension (and, optionally, a full path to the file).

Note: This function is not available in 32 bit versions of WIL

Example:

```
Run("clock.exe", "")
Display(4, "Note", "Close Clock to continue")
AppWaitClose("clock.exe")
Message("Continuing...", "Clock closed")
```

See Also:

AppExist, Delay, RunShell, RunWait, WinExeName, WinWaitClose, Yield

Calculates the arcsine.

Syntax:

Asin(*x*)

Parameters:

(f) *x* floating point number whose arcsine is desired.

Returns:

(f) the **Asin** function returns the arcsine result of *x*.

The **Asin** function returns the arcsine of *x* in the range $-\pi/2$ to $\pi/2$ radians. The value of *x* must be between -1 and 1 otherwise a domain error will occur.

Example:

```
real=AskLine("ArcSin", "Enter a real number between -1 and 1", "0.5")
answer=Asin(real)
Message("Arcsin of %real% is", answer)
```

See Also:

Acos, Atan, Cos, Sin, Tan

Returns the filename as selected by a FileOpen dialog box.

Syntax:

AskFileName(title, directory, filetypes, default filename, flag)

Parameters:

(s) title	title of the file name select box.
(s) directory	initial drive and directory.
(s) filetypes	file type selection definition (see below)*.* text highlighted in the File Name field of the Open/Save dialog box or file filter. (format: description mask | description mask | etc.).
(s) default filename	default filename or mask.
(s) flag	0 for Save style ; 1 for Open style.

Returns:

(s) string	A string containing the filename and path.

This function is the equivalent of a standard Common Dialog FileOpen or a FileSave dialog box. The initial drive and directory is logged, and either a FileSave or a FileOpen dialog box is presented to the user. The default filename or mask is filled in, as well as a selection of filetypes.

The user can either type in a filename or select one via the file list box. File types displayed may be selected from the File Type drop down list box. The File Type drop down list box is specified via the ***filetypes*** parameter. The filetype parameter is defined as follows:

filetypes := Description|Mask| [Description|Mask| ...]

Description := Any human readable string

Mask := filespec [; filespec ...]

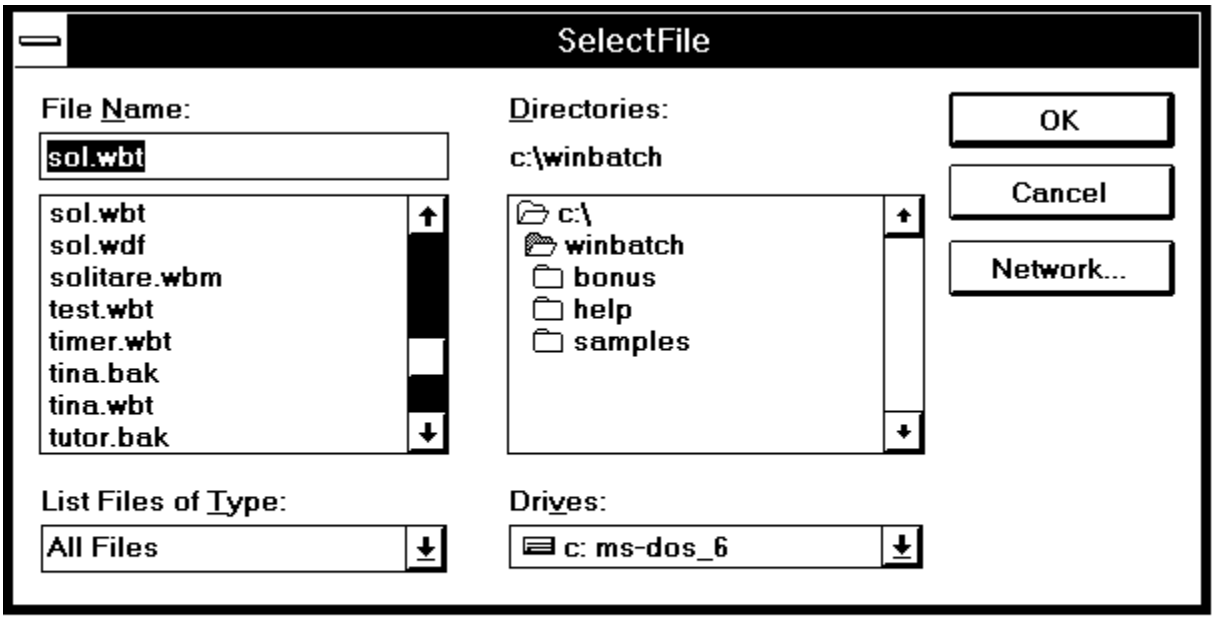
filespec := DOS File wildcard mask

Basically, a description - visible to the user in the drop down list box, followed by the vertical bar symbol(|), followed by a file mask - for the computer, followed by another vertical bar. This description may be repeated for each desired file type selection.

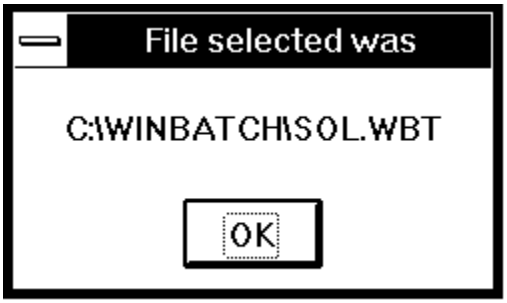
Example:

```
types="All Files|*.*|WIL Files|*.wbt;*.mnu|Text Files|*.txt|"
fn1=AskFileName("SelectFile", "C:\WinBatch", types, "Sol.wbt", 1)
Message("File selected was", fn1)
```

which produces:



and then:



See Also:

AskFileText, AskItemList, AskLine

Allows the user to choose an item from a list box initialized with data from a file.

Syntax:

AskFileText(title, filename, sort mode, select mode)

Parameters:

(s) title	title of the list box.
(s) filename	file containing the contents of list box.
(s) sort mode	**@sorted** for an alphabetic list. **@unsorted** to display the text as is.
(s) select mode	**@single** to limit selection to one item. **@multiple** allow selection of more than one item.

Returns:

(s) the selected item or items. If more than one item is selected it will be returned as a tab delimited list.

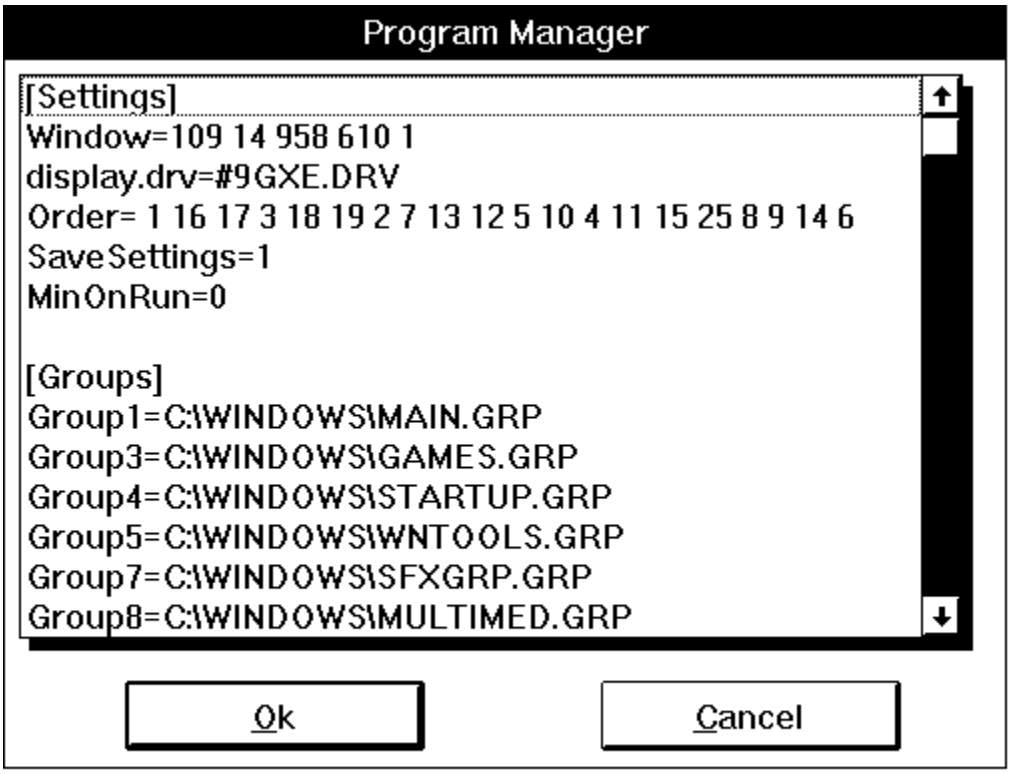
Note: This function replaces **TextBox** and **TextBoxSort**.

This function loads a file into a Windows list box, either as is or sorted alphabetically, and displays the list box to the user. The line or lines highlighted by the user (if any) will be returned to the program as a tab delimited list (see **ItemExtract**). **AskFileText** has two primary uses: First, it can be used to display multi-line messages to the user. In addition, because of its ability to return selected lines, it may be used as a multiple choice question box. If the user does not make a selection, a null string ("") is returned. If disk drive and path are not part of the filename, the current directory will be examined first, and then the DOS path will be searched to find the desired file.

Example:

```
A=AskFileText("Program Manager", "progman.ini", @unsorted, @single)
Message("The line chosen was", A)
```

which produces:



See Also:

AskItemList, AskFileName, AskLine

Allows the user to choose an item from a list box initialized with a list variable.

Syntax:

AskItemList(title, list variable, delimiter, sort mode, select mode)

Parameters:

(s) title	title of the list box.
(s) list variable	a string containing a list of items.
(s) delimiter	a character to act as a delimiter between items in the list.
(s) sort mode	**@sorted** for an alphabetic list. **@unsorted** to display the list of items as is.
(s) select mode	**@single** to limit selection to one item. **@multiple** to allow selection of more than one item.

Returns:

(i) the selected item or items.

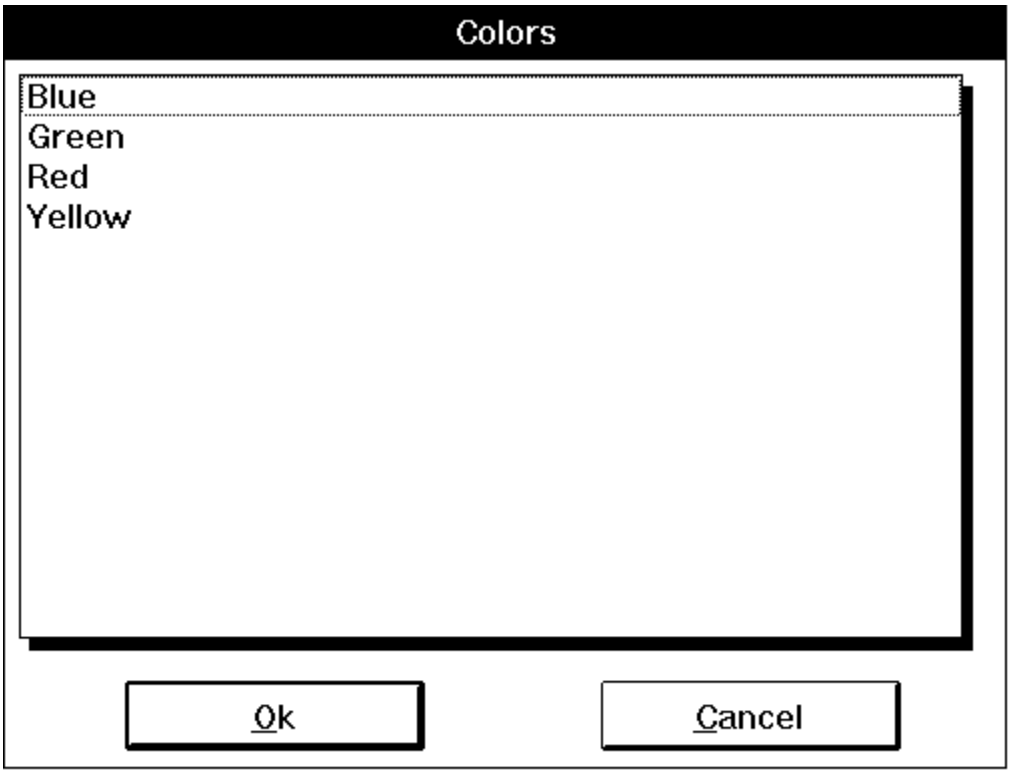
Note: This function replaces **ItemSelect** and **TextSelect**.

This function displays a list box. The list box is filled with a list of items, sorted or unsorted, taken from a string you provide to the function. Each item in the string must be separated ("delimited") by a character, which you also pass to the function (we suggest using Tabs). The user selects one of the items by either double clicking on it, or single-clicking and pressing OK. The item is returned as a string. If you create the list with the **FileItemize** or **DirItemize** functions you will be using a space-delimited list. **WinItemize**, however, creates a tab-delimited list of window titles, since titles can have embedded spaces. The line(s) highlighted by the user (if any) will be returned to the program. If multiple lines are selected, they will be separated by the specified delimiter. If the user does not make a selection, a null string ("") is returned

Example:

```
tab=num2char(9)
list=strcat("Red",tab,"Blue",tab,"Yellow",tab,"Green")
A=AskItemList("Colors", list, tab, @sorted, @single)
Message("The item selected is", A)
```

produces:



See Also:

AskFileText, AskFileName

Prompts the user for one line of input.

Syntax:

AskLine (title, prompt, default)

Parameters:

(s) title	title of the dialog box.
(s) prompt	question to be put to the user.
(s) default	default answer.

Returns:

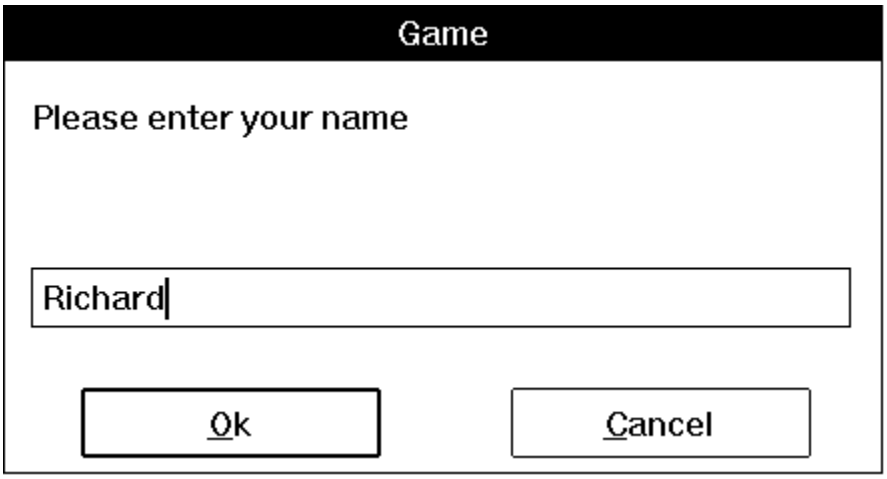
(s)	user response.

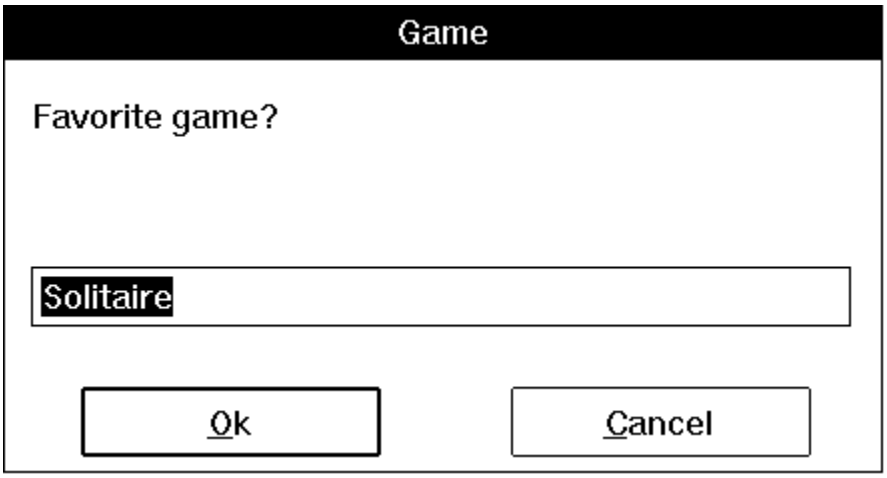
Use this function to query the user for a line of data. The entire user response will be returned if the user presses the `OK` button or the `Enter` key. If the user presses the `Cancel` button or the `Esc` key, the processing of the WIL program is canceled.

Example:

```
name = AskLine("Game", "Please enter your name", "")
game = AskLine("Game", "Favorite game?", "Solitaire")
message(StrCat(name,"'s favorite game is "), game)
```

produces:





And then, if Richard types "Scramble" and clicks on the OK button:

See Also:

AskPassword, AskYesNo, Dialog, Display, AskItemList, Message, Pause, AskFileText

Prompts the user for a password.

Syntax:

AskPassword (title, prompt)

Parameters:

(s) title	title of the dialog box.
(s) prompt	question to be put to the user.

Returns:

(s)	user response.

Pops up a special dialog box to ask for a password. An asterisk (*) is echoed for each character that the user types; the actual characters entered are not displayed. The entire user response will be returned if the user presses the OK button or the Enter key. If the user presses the Cancel button or the Esc key, the processing of the WIL program is canceled.

Example:

```
pw = AskPassword("Security check", "Please enter your password")
If StriCmp(pw, "Erin") == 0
     Run(Environment("COMSPEC"), "")
     Exit
else
     Pause("Security breach", "Invalid password entered")
endif
```

See Also:

AskLine, AskYesNo, Dialog

Prompts the user for a yes or no answer.

Syntax:

AskYesNo (title, question)

Parameters

(s) title	title of the question box.
(s) question	question to be put to the user.

Returns:

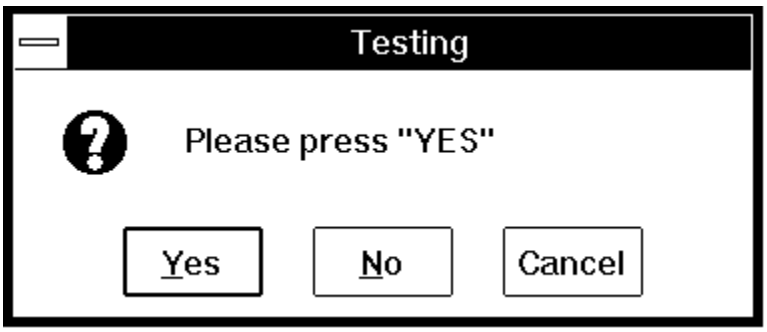
(i)	**@YES** or **@NO**, depending on the button pressed.

This function displays a message box with three pushbuttons - Yes, No, and Cancel.

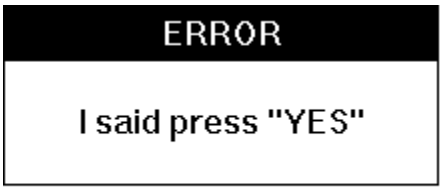
Example:

```
q = AskYesNo('Testing', 'Please press "YES"')
If q == @YES Then Exit
Display(3, 'ERROR', 'I said press "YES"')
```

produces:



... and then, if the user presses **No**:



See Also:

AskLine, AskPassword, Dialog, Display, AskItemList, Message, Pause, AskFileText

Calculates the arc tangent.

Syntax:

Atan(x)

Parameters:

(f) *x* floating point number whose arc tangent is desired.

Returns:

(f) The **Atan** function returns the arc tangent result of *x*.

The **Atan** function calculates the arc tangent of x, which returns a value in the range -π/2 to π/2 radians. If ***x*** is 0 a domain error occurs.

Example:

```
real=AskLine("ArcTan", "Enter a real number ", "34.6")
answer=Atan(real)
Message("ArcTan of %real% is", answer)
```

See Also:

Acos, Asin, Cos, Sin, Tan

Returns the average of a list of numbers.

Syntax:

Average(list)

Parameters:

(f) list	comma delimited floating point numbers to be averaged.

Returns:

(f)	the average of the numbers.

Use this function to compute the mean average of a series of numbers, delimited by commas. It adds the numbers provided as parameters, and then divides by the number of parameters. This function returns a floating point value.

Example:

```
avg = Average(1.7, 2.6, 3, 4, 5, 6, 7, 8, 9, 10.6, 11, 12)
Message("The average is", avg)
```

See Also:

Abs, Fabs, Max, Min, Random

Beeps once.

Syntax:

Beep

Parameters:

(none)

Returns:

(not applicable)

Use this command to produce a short beep, generally to alert the user to an error situation or to get the user's attention.

Example:

```
Beep
Pause("WARNING!!!", "You are about to destroy data!")
```

See Also:

PlayMedia, PlayMidi, PlayWaveForm, Sounds

File manipulation in fast RAM memory.

WIL contains a number of functions designed to allow direct access to areas - buffers - of computer memory. By managing and working with these buffers using the assorted Binary functions provided, you can implement a number of operations that otherwise would be tedious and time consuming. Using the Binary functions, you can perform edits on any sort of file, build new files, build data structures, and do high-speed editing of multiple files. If you understand the structure of a data file, you can perform fast look-ups of data with these functions.

The principal, required Binary functions are **BinaryAlloc** and **BinaryFree**. The **BinaryAlloc** function allows you to allocate a buffer of almost any size. You may have up to ten separate buffers allocated at one time. When operations are complete with a particular buffer, the **BinaryFree** function is used to return it to the system.

There are **BinaryRead** and **BinaryWrite** functions to read files into allocated buffers, and to write the contents of buffers back to files. A **BinaryCopy** function can move sections of one buffer to another one, allowing buffers to be broken up and re-combined in different fashions.

A set of peek and poke functions, **BinaryPeek**, **BinaryPeekStr**, **BinaryPoke**, and **BinaryPokeStr** allow direct editing and modification of the buffers. These functions can initialize a buffer that can be passed to a third party Dll via the **DllCall** function.

A **BinaryIndex** function is available to assist in searching buffers for known data patterns, and a **BinaryStrCnt** function can quickly scan a buffer and return the number of occurrences of particular data patterns. A couple of functions to get and set the End-of-Data point of each buffer (which is automatically tracked), **BinaryEodGet** and **BinaryEodSet,** and the average unreconstructed hacker has all the tools necessary to become a real hazard to the community at large.

Allocates a memory buffer of the desired size.

Syntax:

BinaryAlloc(size)

Parameters:

(i) size	size in bytes of the desired memory buffer.

Returns:

(i)	returns a handle to a buffer of the desired size, or **@FALSE** if the allocation fails.

Use this function allocate a memory buffer for Binary operations. Up to 10 separate buffers may be allocated concurrently. Nearly any reasonably sized buffer may be allocated. Windows users may allocate over 10 million bytes, assuming sufficient system memory and page file space is available. Users of 32 bit versions of Windows may allocate, theoretically, over 2 trillion bytes, the real, practical bounds are not established and will vary with system configuration.

When operations on a particular buffer are complete, it should be released with the **BinaryFree** function.

Example:

```
; This example edits the Config.sys file
; by adding a new line to the bottom of the file.
;
fs=FileSize("C:\CONFIG.SYS")
; Allocate a buffer the size of your file + 100 bytes.
binbuf = BinaryAlloc(fs+100)
if binbuf == 0
     Message("Error", "BinaryAlloc Failed")
else
     ; Read the file into the buffer.
     BinaryRead(binbuf, "C:\CONFIG.SYS")
     ; Append a line to the end of the file in buffer.
     BinaryPokeStr(binbuf, fs, "DEVICE=C:\FLOOGLE.SYS%@crlf%")
     ; Write modified file back to the file from the buffer.
     BinaryWrite(binbuf, "C:\CONFIG.SYS")
     binbuf=BinaryFree(binbuf)
endif
```

See Also:

Binary Operations, BinaryCopy, BinaryFree, BinaryRead, DllCall

Copies bytes of data from one binary buffer to another.

Syntax:

BinaryCopy(handle targ, offset targ, handle src, offset src, count)

Parameters:

(i) handle targ	handle of target buffer.
(i) offset targ	zero-based offset into the target buffer specifying where the data to be copied should be placed.
(i) handle src	handle of the source buffer.
(i) offset src	zero-based offset into the source buffer specifying where the data to be copied starts.
(i) count	the number of bytes to copy.

Returns:

(i)	number of bytes actually copied. The byte count may be lower thanthat specified in the command if the source block does not contain sufficient data.

Use this function to move blocks of data from one binary buffer to another one. **Count** bytes are transferred from the **handle-src** buffer starting at **offset-src** to the **handle-targ** buffer starting at **offset-targ.**

Example:

```
; This example edits the config.sys file
; and adds a new line at the top of the file.
;
fs1 = FileSize("C:\CONFIG.SYS")
binbuf1 = BinaryAlloc(fs1)
BinaryRead(binbuf1, "C:\CONFIG.SYS")
binbuf2=binaryalloc(fs1 + 200)
n = BinaryPokeStr(binbuf2, 0, "Rem Note new line at top")
a2=BinaryCopy(binbuf2, n, binbuf1, 0, fs1)
BinaryWrite(binbuf2, "C:\CONFIG.SYS")
binbuf2 = BinaryFree(binbuf2)
binbuf1 = BinaryFree(binbuf1)
```

See Also:

Binary Operations, BinaryAlloc, BinaryFree, BinaryRead, BinaryWrite

Returns the offset of the free byte just after the last byte of stored data.

Syntax:

BinaryEodGet(handle)

Parameters:

(i) handle handle of buffer.

Returns:

(i) offset of the free byte just after the last byte of stored data.

Use this function to determine the beginning of the free area just past the already initialized data in a buffer. This value is automatically set by any Binary function that modifies the buffer.

Example:

```
; This example adds three lines to the end of the
; config.sys file.
;
fs1 = FileSize( "C:\CONFIG.SYS" )
binbuf1 = BinaryAlloc( fs1 + 100 )
BinaryRead( binbuf1, "C:\CONFIG.SYS" )
a = BinaryEodGet( binbuf1 )
BinaryPokeStr( binbuf1, a, "REM ADDING FIRST NEW LINE TO END%@CRLF%")
a = BinaryEodGet( binbuf1 )
BinaryPokeStr( binbuf1, a, "REM ADDING SECOND LINE TO END%@CRLF%" )
a = BinaryEodGet( binbuf1 )
BinaryPokeStr( binbuf1, a, "REM ADDING THIRD LINE TO END%@CRLF%")
BinaryWrite( binbuf1, "C:\CONFIG.SYS")
BinaryFree( binbuf1 )
```

See Also:

Binary Operations, BinaryAlloc, BinaryEodSet, BinaryIndex,

Sets the EOD (end of data) value of a buffer.

Syntax:

BinaryEodSet(handle, offset)

Parameters:

(i) handle	handle of buffer.
(i) offset	desired offset to set the end-of-data value to.

Returns:

(i)	previous value.

Use this function to update the EOD value. This can be done when data at the end of a buffer is to be discarded, or when the buffer has been modified by an external program - such as via a **DllCall**.

Example:

```
; This function extracts the first line from the
; config.sys file and writes it to a new file.

fs1 = FileSize("C:\CONFIG.SYS")
binbuf1 = binaryalloc( fs1 + 100)
BinaryRead(binbuf1, "C:\CONFIG.SYS")
a = BinaryIndex(binbuf1, 0, @CRLF, @FWDSCAN)
; we just found find end of first line
a = a + 2          ; add 2 to skip crlf
BinaryEodSet(binbuf1, a)
BinaryWrite(binbuf1, "firstlin.txt")
binbuf1 = BinaryFree(binbuf1)
```

See Also:

Binary Operations, BinaryAlloc, BinaryEodGet, BinaryIndex, DllCall

Frees a buffer previously allocated with **BinaryAlloc.**

Syntax:

BinaryFree(handle)

Parameters:

(i) handle handle of buffer to free.

Returns:

(i) always 0.

Use this function to free a binary buffer previously allocated by the **BinaryAlloc** function. After freeing the buffer, no further operations should be performed on the buffer or its handle.

Example:

```
fs=FileSize("C:\CONFIG.SYS")
binbuf = BinaryAlloc(fs+100)
if binbuf == 0
     Message("Error", "BinaryAlloc Failed")
else
     BinaryRead(binbuf, "C:\CONFIG.SYS")
     BinaryPokeStr(binbuf, fs, "DEVICE=C:\FLOOGLE.SYS%@crlf%")
     BinaryWrite(binbuf, "C:\CONFIG.SYS")
     binbuf=BinaryFree(binbuf)
endif
```

See Also:

Binary Operations, BinaryAlloc

Searches a buffer for a string. (case sensitive)

Syntax:

BinaryIndex(handle, offset, string, direction)

Parameters:

(i) handle	handle of buffer.
(i) offset	offset in the buffer to begin search.
(s) string	the string to search for within the buffer.
(i) direction @BACKSCAN	the search direction. @FWDSCAN searches forwards, while searches backwards.

Returns:

(i)	offset of string within the buffer, or 0 if not found.

This function searches for a **string** within a buffer. Starting at the **offset** position, it goes forwards or backwards depending on the value of the **direction** parameter. It stops when it finds the **string** within the buffer and returns the **string's** beginning offset.

Note 1: The **string** parameter may be composed of any characters except the null (00) character. This function cannot process a null character. If you need to search for a null character, use the **BinaryPeek** function in a **for** loop.

Note 2: The return value of this function is possibly ambiguous. A zero return value may mean the **string** was not found, or it may mean the **string** was found starting at **offset** 0. If there is a possibility that the **string** to be searched for could begin at the beginning of the buffer, you must determine some other way of resolving the ambiguity, such as using **BinaryPeekStr**.

Example:

```
; Find line number of line in config.sys where HIMEM occurs
fs1 = FileSize( "C:\CONFIG.SYS" )
binbuf1 = binaryalloc( fs1 )
a1 = BinaryRead( binbuf1, "C:\CONFIG.SYS" )
a = BinaryIndex( binbuf1, 0, "HIMEM", @FWDSCAN )  ;  find HIMEM
if a == 0
     Message("Hmmm", "HIMEM not found in CONFIG.SYS file")
else
     c = BinaryStrCnt( binbuf1, 0, a, @CRLF) + 1
     Message("Hmmm",  "HIMEM found on line %c%")
endif
```

See Also:

Binary Operations, BinaryCopy, BinaryIndexNc BinaryEodGet, BinaryEodSet, BinaryStrCnt

Searches a buffer for a string, ignoring case.

Syntax:

BinaryIndexNc(handle, offset, string, direction)

Parameters:

(i) handle — handle of buffer.
(i) offset — offset in the buffer to begin search.
(s) string — the string to search for within the buffer.
(i) direction — the search direction. @FWDSCAN searches forwards, while @BACKSCAN searches backwards.

Returns:

(i) offset of string within the buffer, or 0 if not found.

This function is like BinaryIndex, but performs a case-insensitive search for a **string** within a buffer. Starting at the **offset** position, it goes forwards or backwards depending on the value of the **direction** parameter. It stops when it finds the **string** within the buffer and returns the **string's** beginning offset.

Note 1: The **string** parameter may be composed of any characters except the null (00) character. This function cannot process a null character. If you need to search for a null character, use the **BinaryPeek** function in a **for** loop.

Note 2: The return value of this function is possibly ambiguous. A zero return value may mean the **string** was not found, or it may mean the **string** was found starting at **offset** 0. If there is a possibility that the **string** to be searched for could begin at the beginning of the buffer, you must determine some other way of resolving the ambiguity, such as using **BinaryPeekStr**.

Example:

```
; Find line number of line in config.sys where HIMEM occurs
fs1 = FileSize( "C:\CONFIG.SYS" )
binbuf1 = binaryalloc( fs1 )
a1 = BinaryRead( binbuf1, "C:\CONFIG.SYS" )
a = BinaryIndex( binbuf1, 0, "HIMEM", @FWDSCAN )  ;  find HIMEM
if a == 0
     Message("Hmmm", "HIMEM not found in CONFIG.SYS file")
else
     c = BinaryStrCnt( binbuf1, 0, a, @CRLF) + 1
     Message("Hmmm",  "HIMEM found on line %c%")
endif
```

See Also:

Binary Operations, BinaryCopy, BinaryIndex BinaryEodGet, BinaryEodSet, BinaryStrCnt

Returns the value of a byte from a binary buffer.

Syntax:

BinaryPeek(handle, offset)

Parameters:

(i) handle	handle of buffer.
(i) offset	offset in the buffer to obtain byte from.

Returns:

(i)	byte value.

Use this function to return the value of a byte in the binary buffer. Value will be between 0 and 255.

Example:

```
BinaryPoke( binbuf, 5, -14 )  ;Pokes a new value into the buffer.
a=BinaryPeek( binbuf, 5 )          ;Finds the value of a byte.
Message("Hmmm", "Returned value is %a%" )
; Value will be 242  which is (256 - 14).  242 and -14 map
; to the same 8bit number.
```

See Also:

Binary Operations, BinaryCopy, BinaryPeekStr, BinaryPoke, BinaryPokeStr

Extracts a string from a binary buffer.

Syntax:

BinaryPeekStr(handle, offset, maxsize)

Parameters:

(i) handle	handle of buffer.
(i) offset	offset in the buffer the string starts at.
(i) maxsize	maximum number of bytes in string.

Returns:

(s) string starting **offset** location in binary buffer. String consists of all non-zero bytes up to the first zero byte or **maxsize** number of bytes.

This function is used to extract string data from a binary buffer. The desired starting **offset** and a **maxsize** are passed to the function. The function returns a string of bytes, starting at the specified **offset**, and continuing until either a zero byte is found (which terminates the string) or the **maxsize** number of bytes have been copied into the return string.

Example:

```
; This example searches the Config.sys for the first
; occurrence of the string HIMEM.  It then extracts
; the line containing the string and prints it out.
;
fs = FileSize( "C:\CONFIG.SYS" )
binbuf = BinaryAlloc( fs )
BinaryRead( binbuf, "C:\CONFIG.SYS" )
;
; Search for first occurrence of HIMEM.
himem = BinaryIndex( binbuf, 0, "HIMEM", @FWDSCAN)

; Single out beginning of line which contains HIMEM string,
; skipping over the @crlf.
linebegin = BinaryIndex( binbuf, himem, @CRLF, @BACKSCAN) + 2
;
; Search for the end of the line which contains the HIMEM string.
lineend = BinaryIndex( binbuf, himem, @CRLF, @FWDSCAN)
linelen = lineend-linebegin+1
;
; Extract the line with HIMEM string.

linedata=BinaryPeekStr(binbuf, linebegin, linelen)
binbuf=BinaryFree(binbuf)
Message("Himem.sys line in config.sys reads",  linedata)
```

See Also:

Binary Operations, BinaryCopy, BinaryPeek, BinaryPoke, BinaryPokeStr

Pokes a new value into a binary buffer at offset.

Syntax:

BinaryPoke(handle, offset, value)

Parameters:

(i) handle	handle of buffer.
(i) offset	offset in the buffer to store byte into.
(i) value	value to store.

Returns:

(i)	previous value.

This function pokes a value into the binary buffer at the offset specified. The value must be between -127 and 255. The number is converted to an 8 bit value and stored.

Example:

```
BinaryPoke( binbuf, 5, -14 )  ;Pokes a new value into the buffer.
a=BinaryPeek( binbuf, 5 )          ;Finds the value of a byte.
Message("Hmmm", "Returned value is %a%" )
; Value will be 242 which is (256 - 14).  242 and -14 map

; to the same 8bit number.
```

See Also:

Binary Operations, BinaryCopy, BinaryPeek, BinaryPeekStr, BinaryPokeStr

Writes a string into a binary buffer.

Syntax:

BinaryPokeStr(handle, offset, string)

Parameters:

(i) handle	handle of buffer.
(i) offset	offset in the buffer to store string.
(s) string	string to store into buffer.

Returns:

(i)	number of bytes stored.

This function is used to write **string** data into a binary buffer. There must be sufficient space in the buffer between the **offset** and the allocated end of the buffer to accommodate the **string**.

Note: The **string** parameter may be composed of any characters except the null (00) character. If a null character is found, it will be assumed that the **string** ends at that point. If you need to store a null character into a binary buffer, use the **BinaryPoke** function.

Example:

```
; This example writes a new device= line to SYSTEM.INI
; It is *very* fast
NewDevice = "DEVICE=COOLAPP.386"
;
; Change to the Windows Directory
DirChange(DirWindows(0))
;
; Obtain filesize and allocate binary buffers
fs1=FileSize("SYSTEM.INI")
srcbuf  = BinaryAlloc(fs1)
editbuf = BinaryAlloc(fs1+100)
;
; Read existing system.ini into memory
BinaryRead( srcbuf, "SYSTEM.INI")
;
; See if this change was already installed.  If so, quit
a = BinaryIndex( srcbuf, 0, "COOLAPP.386", @FWDSCAN)
if a != 0 then goto AlreadyDone
;
; Find 386Enh section.
a = BinaryIndex( srcbuf, 0, "[386Enh]", @FWDSCAN)
;
;
; Find beginning of next line ( add 2 to skip over our crlf )
cuthere = BinaryIndex( srcbuf, a, @CRLF, @FWDSCAN) + 2
;
; Copy data from beginning of file to just after [386Enh}
; to the edit buffer
BinaryCopy( editbuf, 0, srcbuf, 0, cuthere)
;
; Add the device= line to the end of the edit buffer, and add a CRLF
BinaryPokeStr(editbuf,BinaryEodGet(editbuf), Strcat(NewDevice,@CRLF))
;
; Copy remaining part of source buffer to the edit buffer
a = BinaryEodGet(editbuf)
```

```
b = BinaryEodGet(srcbuf)
BinaryCopy( editbuf, a, srcbuf, cuthere, b-cuthere)
;
; Save file out to disk.  Use system.tst until it is
; completely debugged
BinaryWrite( editbuf, "SYSTEM.TST")
;
; Close binary buffers
:AlreadyDone
BinaryFree(editbuf)
BinaryFree(srcbuf)
```

See Also:

Binary Operations, BinaryCopy, BinaryPeek, BinaryPeekStr, BinaryPoke

Reads a file into a binary buffer.

Syntax:

BinaryRead(handle, filename)

Parameters:

(i) handle	handle of buffer.
(s) filename	file to read into buffer.

Returns:

(i)	the number of bytes read.

This function reads the entire contents of a file into a buffer then returns the number of bytes read. The buffer must be large enough to hold the entire file. The file is placed into the buffer starting at offset 0.

Example:

```
; This example edits the Config.sys file by adding a line

; to the bottom of the file.

fs=FileSize("C:\CONFIG.SYS")
binbuf = BinaryAlloc(fs+100)
if binbuf == 0
     Message("Error", "BinaryAlloc Failed")
else
     BinaryRead(binbuf, "C:\CONFIG.SYS")
     BinaryPokeStr(binbuf, fs, "DEVICE=C:\FLOOGLE.SYS%@crlf%")
     BinaryWrite(binbuf, "C:\CONFIG.SYS")
     binbuf=BinaryFree(binbuf)
endif
```

See Also:

Binary Operations, BinaryAlloc, BinaryFree, BinaryWrite

Counts the occurrences of a string in some or all of a binary buffer.

Syntax:

BinaryStrCnt(handle, start-offset, end-offset, string)

Parameters:

(i) handle	handle of buffer.
(i) start-offset	offset for start of search.
(i) end-offset	offset for end of search.
(s string	string to search for.

Returns:

(i)	number of occurrences of **string** found.

This function will search all or a portion of a binary buffer for a **string** and will return a count of the occurrences of the **string** found. The buffer will be searched from the **start-offset** to the **end-offset.**

Note: The **string** parameter may be composed of any characters except the null (00) character. This function cannot process a null character.

Example:

```
; Find number of Device, DEVICE= and device= lines in config.sys
fs1 = FileSize( "C:\CONFIG.SYS" )
binbuf1 = binaryalloc( fs1 )
BinaryRead( binbuf1, "C:\CONFIG.SYS" )
a = BinaryStrCnt( binbuf1, 0, fs1 - 1, "Device=")
b= BinaryStrCnt( binbuf1, 0, fs1 - 1, "DEVICE=")
c= BinaryStrCnt( binbuf1, 0, fs1 - 1, "device=")
BinaryFree( binbuf1 )
d = a + b + c
Message( "Hmmm", "Total Device= lines found in Config.Sys is %d% " )
```

See Also:

Binary Operations, BinaryEodGet, BinaryEodSet, BinaryIndex, BinaryPeek, BinaryPeekStr, BinaryPoke, BinaryPokeStr

Writes a binary buffer to a file.

Syntax:

BinaryWrite(handle, filename)

Parameters:

(i) handle	handle of buffer.
(s) filename	file to read into buffer.

Returns:

(i)	number of bytes written.

This function writes the contents of a binary buffer out to a file and returns the number of bytes written. Data written to the file starts at offset 0 in the buffer and extends to the end of data - not necessarily the end of the buffer. The end of data may be inspected or modified with the **BinaryEodGet** and **BinaryEodSet** functions.

Example:

```
; This example edits the Config.sys file by adding a line
; to the bottom of the file.
fs=FileSize("C:\CONFIG.SYS")
binbuf = BinaryAlloc(fs+100)
if binbuf == 0
     Message("Error", "BinaryAlloc Failed")
else
     BinaryRead(binbuf, "C:\CONFIG.SYS")
     BinaryPokeStr(binbuf, fs, "DEVICE=C:\FLOOGLE.SYS%@crlf%")
     BinaryWrite(binbuf, "C:\CONFIG.SYS")
     binbuf=BinaryFree(binbuf)
endif
```

See Also:

Binary Operations, BinaryAlloc, BinaryFree, BinaryRead

The Break statement is used to exit a **While**, **Switch**, **Select**, or **For/Next** structure.

Syntax:

break

Parameters:

none

Use the Break statement to exit a **While**, **Switch**, **Select**, or **For/Next** structure. It transfers control to the statement immediately following the nearest enclosing **EndWhile**, **EndSwitch**, **EndSelect**, or **Next.** It is used to terminate loops and to exit **Switch** statements - usually just before the next **case** statement.

Example:

```
while (a<100)
     a=a+1
     if a==4 then break
     b=b+1
end while
```

See Also:

Continue, For, While, Switch, Select

Changes the names of the buttons which appear in WIL dialogs.

Syntax:

ButtonNames (OK-name, Cancel-name)

Parameters:

(s) OK-name	new name for the OK button.
(s) Cancel-name	new name for the Cancel button.

Returns:

(i)	always 1.

This function allows you to specify alternate names for the OK and/or Cancel buttons which appear in many of the dialogs displayed by the WIL Interpreter. Each use of the **ButtonNames** statement only affects the next WIL dialog which is displayed.

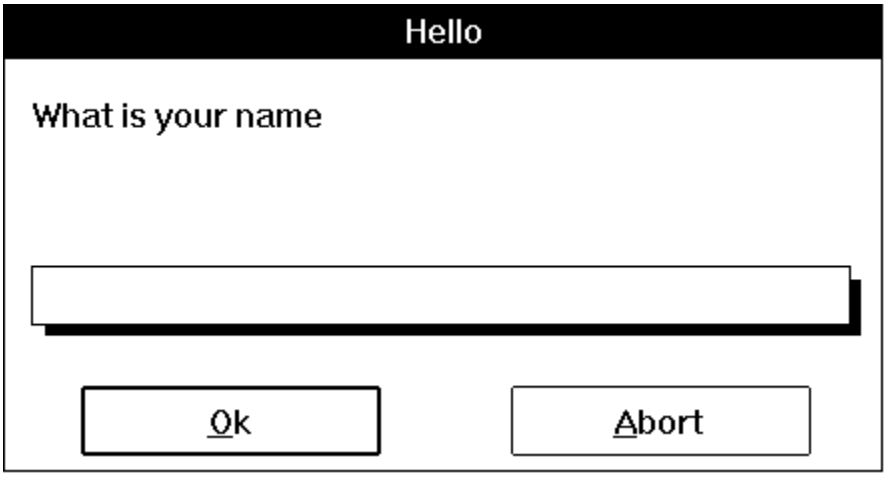
You can specify a null string (**""**) for either the OK-name or Cancel-Name parameter, to use the default name for that button (i.e., "OK" or "Cancel").

You can place an ampersand before the character which you want to be the underlined character in the dialog.

Example:

```
ButtonNames("", "&Abort")
user = AskLine("Hello", "What is your name", "")
Message("Hello", user)
```

would produce:



See Also:

n/a

Calls a WIL batch file as a subroutine.

Syntax:

Call (filename, parameters)

Parameters:

(s) filename	the WIL batch file you are calling (including extension).
(s) parameters	the parameters to pass to the file, if any, in the form "p1 p2 p3 ... pn".

Returns:

(i)	always 0.

This function is used to pass control temporarily to a secondary WIL batch file. The main WIL program can optionally pass parameters to the secondary WIL batch file. All variables are common (**global**) between the calling program and the called WIL batch file, so that the secondary WIL batch file may modify or create variables. The secondary WIL batch file should end with a **Return** statement, to pass control back to the main WIL program.

If a string of parameters is passed to the secondary WIL batch file, it will automatically be parsed into individual variables with the names **param1**, **param2**, etc., (maximum of nine parameters). The variable **param0** will be a count of the total number of parameters in the string.

Example:

```
; File MAIN.WBT
;
; This example asks for user input, their name and age,
; and then calls another WinBatch job to verify if their
; age is between 0 & 150.
;
name = AskLine("", "What is your name?", "")
age = AskLine("", "How old are you?", "")
valid = @NO
Call("chek-age.wbt", age)
If valid == @NO Then Message("", "Invalid age")
Exit


; File CHEK-AGE.WBT
;
; This subroutine checks if the age inputted is between 0 & 150.
; If this is true, a global parameter is set to a value of 1.
userage = param1
really = AskYesNo("", "%name%, are you really %userage%?")
If really == @YES
     If (userage > 0) && (userage < 150)
            valid = @YES
     endif
endif
Return
```

See Also:

ParseData, Return

Calculates the ceiling of a value

Syntax:

Ceiling(x)

Parameters:

(f) *x* value **Ceiling** is calculated from.

Returns:

(f) .... a floating point number whose value represents the smallest integer that is greater than or equal to x. (rounds up to the nearest integer#)

Use this function to calculate the ceiling of a value.

Example:

```
; This example accepts a value from the user to calculate
; the ceiling and floor.
;
a=AskLine("Ceiling and Floor", "Please enter a number", "1.23")
c=Ceiling(a)
f=Floor(a)
Message("Ceiling and Floor of %a%", "Ceiling: %c%    Floor: %f%")
```

ie.

A=	Ceiling=	Floor=
25.2	26.0	25.0
25.7	26.0	25.0
24.9	25.0	24.0
-14.3	-14.0	-15.0

See Also:

Abs, Fabs, Floor, Min, Max

Converts the first character of a string to its numeric equivalent.

Syntax:

Char2Num (string)

Parameters:

(s) string	any text string. Only the first character will be converted.

Returns:

(i)	ANSI character code.

This function returns the 8-bit ANSI code corresponding to the first character of the string parameter.

Note: For the commonly-used characters (with codes below 128), ANSI and ASCII characters are identical.

Example:

```
; Show the hex equivalent of entered character
inpchar = AskLine("ANSI Equivalents", "Char:", "")
ansi = StrSub(inpchar, 1, 1)
ansiequiv = Char2Num(InpChar)
Message("ANSI Codes", "%ansi% => %ansiequiv%")
```

See Also:

IsNumber, Num2Char

Appends a string to the Clipboard.

Syntax:

ClipAppend (string)

Parameters:

(s) string	text string to add to Clipboard.

Returns:

(i)	**@TRUE** if string was appended; **@FALSE** if Clipboard ran out of memory.

Use this function to append a string to the Windows Clipboard. The Clipboard must either contain text data or be empty for this function to succeed.

Example:

```
; The code below will append 2 copies of the
; Clipboard contents back to the Clipboard, resulting
; in 3 copies of the original contents with a CR/LF
; between each copy.
a = ClipGet()
crlf = StrCat(Num2Char(13), Num2Char(10))
ClipAppend(crlf)
ClipAppend(a)
ClipAppend(crlf)
ClipAppend(a)
```

See Also:

ClipGet, ClipPut

Returns the contents of the Clipboard.

Syntax:

ClipGet ( )

Parameters:

(none)

Returns:

(s) Clipboard contents.

Use this function to copy text from the Windows Clipboard into a string variable.

Note: If the Clipboard contains an excessively large string a (fatal) out of memory error may occur.

Example:

```
; The code below will convert Clipboard contents to
; uppercase
ClipPut(StrUpper(ClipGet()))
a = ClipGet()
Message("UPPERCASE Clipboard Contents", a)
```

See Also:

ClipAppend, ClipPut

Copies a string to the Clipboard.

Syntax:

ClipPut (string)

Parameters:

(s) string	any text string.

Returns:

(i)	**@TRUE** if string was copied; **@FALSE** if Clipboard ran out of memory.

Use this function to copy a string to the Windows Clipboard. The previous Clipboard contents will be lost.

Example:

```
; The code below will convert Clipboard contents to
; lowercase
ClipPut(StrLower(ClipGet()))
a = ClipGet()
Message("lowercase Clipboard Contents", a)
```

See Also:

ClipAppend, ClipGet, SnapShot

The **Continue** statement in a **While** or **For** loop causes a transfer of control back to the beginning of the loop so that the controlling expressions can be re-evaluated. In a **Switch** or **Select** statement, execution of a particular **case** is terminated and a search for the next matching **case** is initiated.

Syntax:

Continue

Parameters:

none

In **While** or **For** statements, use the **Continue** statement to immediately stop execution and re-evaluate the **While** or **For** statement to determine if the loop should be repeated. In **For** statements, the index variable is also incremented. In **Switch** or **Select** statements, if a case is being executed, execution of that case is terminated, and a search is started for another case statement whose expression evaluates to the same integer as the expression controlling the **Switch** or **Select** statement.

Example:

```
a=0
b=0
while (a<100)
     a=a+1
     if a>10 then  continue
     b=b+1
end while
```

See Also:

Break, For, While, Switch, Select

Calculates the cosine.

Syntax:

Cos(*x*)

Parameters:

(f) *x* angle in radians.

Returns:

(f) The **Cos** function returns the cosine of *x*.

Calculates the cosine. If *x* is large, a loss in significance in the result or a significance error may occur.

Note: To convert an angle measured in degrees to radians, simply multiply by the constant **@Deg2Rad**.

Example:

```
real=AskLine("Cosine", "Enter an angle in degrees ( 0 to 360)", "45")
answer=cos(real * @Deg2Rad)
Message("Arccos of %real% degrees is",answer)
```

See Also:

Acos, Asin, Atan, Cosh, Sin, Tan

Calculates the hyperbolic cosine.

Syntax:

Cosh(x)

Parameters:

(f) *x* angle in radians.

Returns:

(f) The **Cosh** function returns the hyperbolic cosine of x.

Calculates the hyperbolic cosine. If the result is too large, the function will return an error.

Note: To convert an angle measured in degrees to radians, simply multiply by the constant **@Deg2Rad**.

Example:

```
real=AskLine("Cosh", "Enter an angle in degrees (0 to 360)", "45")
answer=cosh(real * @Deg2Rad)
Message("Hyperbolic cosine of %real% degrees is",answer)
```

See Also:

Acos, Asin, Atan, Cos, Sin, Sinh, Tan, Tanh

Returns the selected filename.

Syntax:

CurrentFile ( )

Parameters:

(none)

Returns:

(s) currently-selected file's name.

When a WIL menu shell displays the files in the current directory, one of them may be "selected". This function returns the name of that file, if any.

This is different than a "highlighted" file. When a file is highlighted, it shows up in inverse video (usually white-on-black). To find the filenames that are highlighted, (see **FileItemize**).

Note: This command is not part of the WIL Interpreter package, but is documented here because it has been implemented in many of the shell or file manager-type applications which use the WIL Interpreter.

Example:

```
; ask which program to run (default = current file)
thefile = AskLine("Run It", "Program:", CurrentFile())
Run(thefile, "")
```

See Also:

CurrentPath, DirGet, DirItemize, FileItemize

Returns the full path plus filename of the currently-selected file.

Syntax:

CurrFilePath()

Parameters:

(none)

Returns:

(s) path and filename of currently-selected file.

Example:

```
;Get the filename before changing directories.
myfile =CurrFilePath()
DirChange("c:\word")
Run("winword.exe", myfile)
```

See Also:

CurrentFile, CurrentPath

Returns path of the selected filename.

Syntax:

CurrentPath ( )

Parameters:

(none)

Returns:

(s) path of currently-selected file.

When a WIL menu shell displays the files in the current directory, one of them may be "selected." This function returns the drive and path of that file, if any.

This is different than a "highlighted" file. When a file is highlighted, it shows up in inverse video (usually white-on-black). To find the filenames that are highlighted, (see **FileItemize**).

Note: This command is not part of the WIL Interpreter package, but is documented here because it has been implemented in many of the shell or file manager-type applications which use the WIL Interpreter.

Example:

```
; Builds full filename before changing directories.

myfile = StrCat(CurrentPath(), CurrentFile())
DirChange("c:\word")
Run("winword.exe", myfile)
```

See Also:

CurrentFile, DirGet, FilePath

Provides the current date and time.

Note: This function has been replaced by **TimeDate**, but will still work in this version for compatibility reasons. See **TimeDate** for more information.

Sends commands to a DDE server application.

Syntax:

DDEExecute (channel, [command string])

Parameters:

(i) channel — same integer that was returned by **DDEInitiate**.
(s) command string — one or more commands to be executed by the server app.

Returns:

(i) **@TRUE** if successful; **@FALSE** if unsuccessful.

Use the **DDEInitiate** function to obtain a channel number.

In order to use this function successfully, you will need appropriate documentation for the server application you wish to access, which must provide information on the DDE functions that it supports and the correct syntax to use.

Example:

```
Run("report.exe", "sales.dat")         ;Run Report
channel = DDEInitiate("report", "YTD");Initialize DDE
If channel != 0                        ;If DDE OK
                                       ;Execute DDE Command
     result = DDEExecute(channel, '[Act:p="ABCco", t=580.00]')
     DDETerminate(channel)                    ;Close DDE
     WinClose("Reports")               ;Close Report
     If result == @FALSE
            Message("DDE Execute", "Failed")
     else
            Message("DDE Execute", "Operation complete")
            Exit
     endif
else
     Message("DDE operation unsuccessful", "Check your syntax")
endif
```

See Also:

DDEInitiate, DDEPoke, DDERequest, DDETerminate, DDETimeout

Opens a DDE channel.

Syntax:

DDEInitiate (app name, topic name)

Parameters:

(s) app name — name of the application (without the **EXE** extension).
(s) topic name — name of the topic you wish to access.

Returns:

(i) communications channel, or **0** on error.

This function opens a DDE communications channel with a server application. The communications channel can be subsequently used by the **DDEExecute**, **DDEPoke**, and **DDERequest** functions. You should close this channel with **DDETerminate** when you are finished using it. If the communications channel cannot be opened as requested, **DDEInitiate** returns a channel number of 0.

You can call **DDEInitiate** more than once, in order to carry on multiple DDE conversations (with multiple applications) simultaneously.

In order to use this function successfully, you will need appropriate documentation for the server application you wish to access, which must provide information on the DDE functions that it supports and the correct syntax to use.

Example:

```
Run("report.exe", "sales.dat")         ;Run Report
channel = DDEInitiate("report", "YTD");Initialize DDE
If channel != 0                        ;If DDE OK
                                       ;Execute DDE Command
     result = DDEExecute(channel, '[Act:p="ABCco", t=580.00]')
     DDETerminate(channel)                    ;Close DDE
     WinClose("Reports")               ;Close Report
     If result == @FALSE
            Message("DDE Execute", "Failed")
     else
            Message("DDE Execute", "Operation complete")
            Exit
     endif
else
     Message("DDE operation unsuccessful", "Check your syntax")
endif
```

See Also:

DDEExecute, DDEPoke, DDERequest, DDETerminate, DDETimeout

Sends data to a DDE server application.

Syntax:

DDEPoke (channel, item name, item value)

Parameters:

(i) channel	same integer that was returned by **DDEInitiate**.
(s) item name	identifies the type of data being sent.
(s) item value	actual data to be sent to the server.

Returns:

(i) **@TRUE** if successful; **@FALSE** if unsuccessful.

Use the **DDEInitiate** function to obtain a channel number.

In order to use this function successfully, you will need appropriate documentation for the server application you wish to access, which must provide information on the DDE functions that it supports and the correct syntax to use.

Example:

```
Run("reminder.exe", "")                ;Run Reminder
channel = DDEInitiate("Reminder", "items")   ;Initialize DDE
If channel != 0                        ;If DDE OK
                                       ;Do DDE Poke
     result = DDEPoke(channel, "all", "11/3/92 Misc Vote!!!!")
     DDETerminate(channel)                    ;Close DDE
     WinClose("Reminder")                     ;Close Application
     If result == @FALSE
            Message("DDE Poke", "Failed")
     else
            Message("DDE Poke", "Operation complete")
            Exit
     endif
else
     Message("DDE operation unsuccessful", "Check your syntax")
endif
```

See Also:

DDEExecute, DDEInitiate, DDERequest, DDETerminate, DDETimeout

Gets data from a DDE server application.

Syntax:

DDERequest (channel, item name)

Parameters:

(i) channel — same integer that was returned by **DDEInitiate**.
(s) item name — identifies the data to be returned by the server.

Returns:

(s) information from the server if successful, "***NACK***" on failure.

Use the **DDEInitiate** function to obtain a channel number.

In order to use this function successfully, you will need appropriate documentation for the server application you wish to access, which must provide information on the DDE functions that it supports and the correct syntax to use.

Example:

```
Run("report.exe", "sales.dat")         ;Run Report
channel = DDEInitiate("report", "YTD");Initialize DDE
If channel != 0                        ;If DDE OK
                                       ;Do DDE Request
     result = DDERequest(channel, 'TotalSales')
     DDETerminate(channel)                    ;Close DDE
     WinClose("Reports")               ;Close Report
     If result == @FALSE
            Message("DDE Execute", "Failed")
     else
            Message("DDE Request", "Total Sales is %result%")
            Exit
     endif
else
     Message("DDE operation unsuccessful", "Check your syntax")
endif
```

See Also:

DDEExecute, DDEInitiate, DDEPoke, DDETerminate, DDETimeout

Closes a DDE channel.

Syntax:

DDETerminate (channel)

Parameters:

(i) channel same integer that was returned by **DDEInitiate**.

Returns:

(i) always 1.

This function closes a communications channel that was opened with **DDEInitiate**.

Example:

```
Run("report.exe", "sales.dat")         ;Run Report
channel = DDEInitiate("report", "YTD");Initialize DDE
If channel != 0                        ;If DDE OK
                                       ;Do DDE Request
     result = DDERequest(channel, 'TotalSales')
     DDETerminate(channel)                    ;Close DDE
     WinClose("Reports")               ;Close Report
     If result == @FALSE
           Message("DDE Execute", "Failed")
     else
           Message("DDE Request", "Total Sales is %result%")
           Exit
     endif
else
     Message("DDE operation unsuccessful", "Check your syntax")
endif
```

See Also:

DDEExecute, DDEInitiate, DDEPoke, DDERequest, DDETimeout

Sets the DDE timeout value.

Syntax:

DDETimeout (value)

Parameters:

(i) value DDE timeout time.

Returns:

(i) previous timeout value.

Sets the timeout time for subsequent DDE functions to specified value in milliseconds (1/1000 second). Default is 3000 milliseconds (3 seconds). If the time elapses with no response, the WIL Interpreter will return an error. The value set with **DDETimeout** stays in effect until changed by another **DDETimeout** statement or until the WIL program ends, whichever comes first.

Example:

```
DDETimeOut(5000)                        Set Timeout to 5 secs
Run("report.exe", "sales.dat")          ;Run Report
channel = DDEInitiate("report", "YTD");Initialize DDE
If channel != 0                         ;If DDE OK
                                        ;Do DDE Request
     result = DDERequest(channel, 'SortByCity')
     DDETerminate(channel)                    ;Close DDE
     WinClose("Reports")                ;Close Report
     If result == @FALSE
            Message("DDE Execute", "Failed")
     else
            Message("DDE Request", "Database sorted")
            Exit
     endif
else
     Message("DDE operation unsuccessful", "Check your syntax")
endif
```

See Also:

DDEExecute, DDEInitiate, DDEPoke, DDERequest, DDETerminate

Controls the debug mode.

Syntax:

Debug (mode)

Parameters:

(i) mode **@ON** or **@OFF**

Returns:

(i) previous debug mode

Use this function to turn the debug mode on or off. The default is **@OFF**.

When debug mode is on, the WIL Interpreter will display the statement just executed, its result (if any), any error conditions, and the next statement to execute.

The statements are displayed in a special dialog box which gives the user four options: **Next**, **Run**, **Cancel** and **Show Var**.

Next executes the next statement and remains in debug mode.

Run exits debug mode and runs the rest of the program normally.

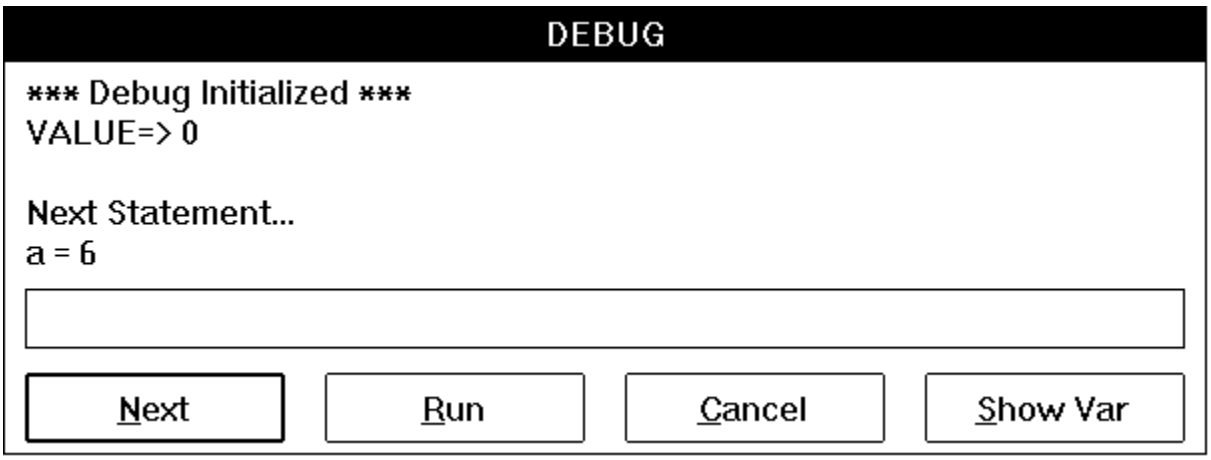
Cancel terminates the current WIL program.

Show Var displays the contents of a variable whose name the user entered in the edit box.

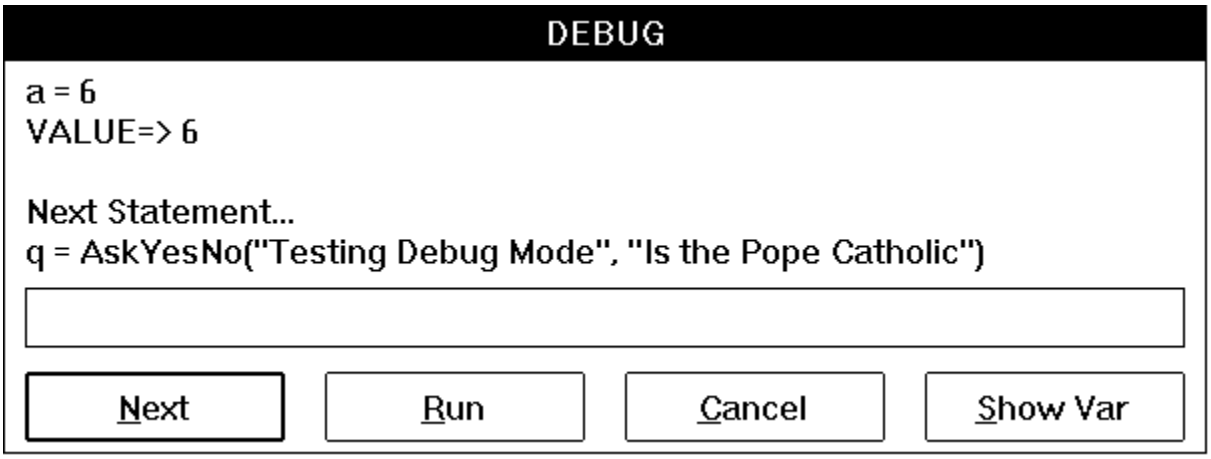
Example:

```
Debug(@ON)
a = 6
q = AskYesNo("Testing Debug Mode", "Is the Pope Catholic")
Debug(@OFF)
b = a + 4
```

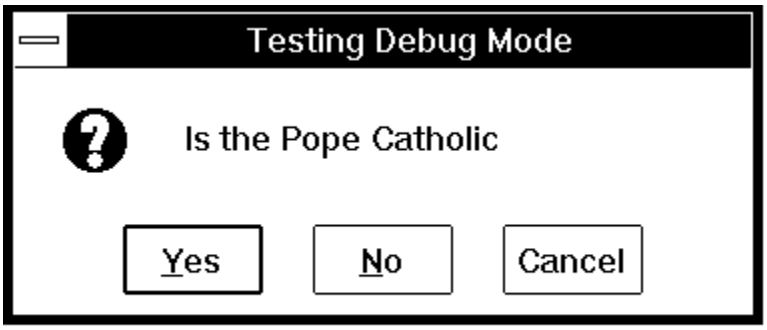
produces:



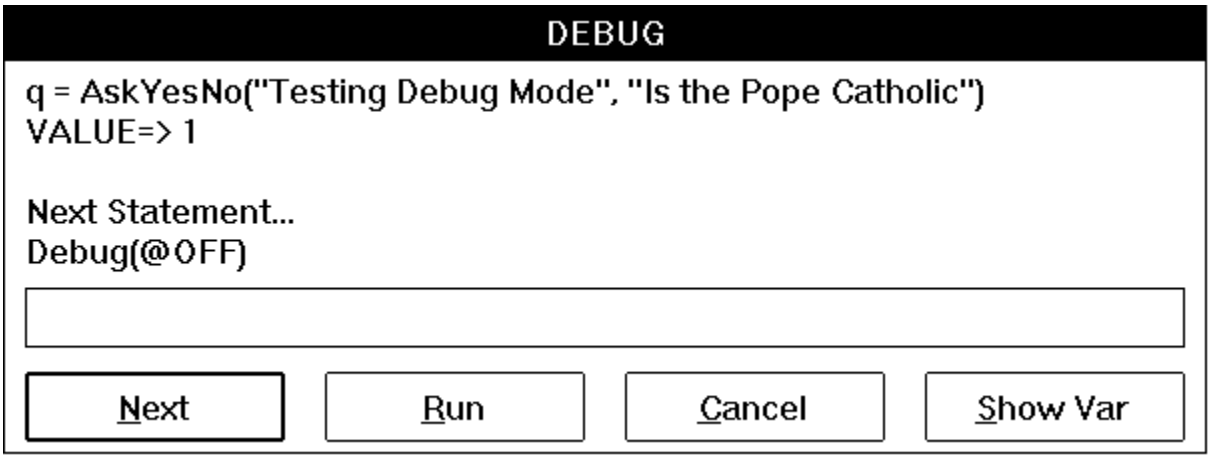
... then, if the user presses **Next**:



... and presses **Next** again:



... and then presses **Yes**:



etc. (If the user had pressed **No** it would have said "VALUE=>0".)

See Also:

ErrorMode, LastError

Writes data via the Windows OutputDebugString function to the default destination.

Syntax:

DebugData(string, string)

Parameters:

(s) string	desired data.
(i) string	more desired data.

Returns:

(i) always zero

Writes data via the Windows OutputDebugString function to the default destination. The function is generally only useful if you have the proper tools and hardware to debug Windows applications. In general, for standard retail Windows, the default destination is COM1. The Windows SDK provides tools (DBWIN) to allow you to capture the debug data to an alternate device or to a special window.

Use of this function in standard retail Windows may interfere with any device, such as a mouse or modem connected to COM1.

For users without sophisticated (and expensive) debugging tools, the WIL **Debug** function and the WIL **Message** function work incredibly well.

Example:

```
a=45
DebugData("Value of a is", a)
; or for those without expensive tools
Message("Value of a is", a)
```

See Also:

Debug, Message

Sets the number of decimal places to be used when displaying floating point numbers.

Syntax:

Decimal(places)

Parameters:

(i) places number of decimals to be displayed.

Returns:

(i) previously set value.

Use this function to set the number of decimal places to be displayed when viewing a floating point number. The floating point number will be rounded to the specified number of decimals. If you are doing computations on US currency -- mortgage or financial calculations -- use **Decimals(2)**. Use **-1** for full precision, dropping of trailing zeros.

Example:

```
a=1.23456789
for d = 0 to 10
     Decimals(d)
     Message("Decimals = %d%", a)
Next
```

See Also:

<none>

Pauses execution for a specified amount of time.

Syntax:

Delay (seconds)

Parameters:

(i) seconds integer seconds to delay (1 - 3600)

Returns:

(i) always 1

This function causes the currently-executing WIL program to be suspended for the specified period of time. **Seconds** must be an integer between 1 and 3600. Smaller or larger numbers will be adjusted accordingly.

Example:

```
Message("Wait", "About 15 seconds")
Delay(15)
Message("Hi", "I'm Baaaaaaack")
```

See Also:

Yield, TimeDelay, TimeWait

Displays a user-defined dialog box.

Syntax:

Dialog (dialog-name)

Parameters:

(s) dialog-name name of the dialog box.

Returns:

(i) value of the pushbutton used to close the dialog box.

Note:

The DialogEditor has been included to create your dialogs. The following information is for technical reference only.

The text which follows describes how to define a dialog box for use by the **Dialog** function. Please refer to your product-specific documentation for any additional information which may supplement or supersede that which is described here.

Before the **Dialog** function is called, you must include a section of code in your WIL program which will define the characteristics of the dialog box to be displayed. First of all, the dialog must be declared, and a name must be assigned to it. This is done with a line of the following format:

```
<name>Format="WWWDLGED,5.0"
```

where <name> is the dialog name. "WWWDLGED,5.0" is the hard coded format which identifies this dialog box as using the WIL interpreter Version 5.0. This should follow the standard rules for WIL variable names, and may not exceed 17 characters in length.

Next, the format of the dialog box is defined, as follows:

```
<name>X=<x-origin>
<name>Caption="<box-caption>"
<name>Y=<y-origin>
<name>Width=<box-width>
<name>Height=<box-height>
<name>NumControls=<ctrl-count>
```

where:

<name>	is the internal name of the dialog box, as described above.
<box-caption>	is the text which will appear in the title bar of the dialog box.
<x-origin>	is the horizontal coordinate of the upper left corner of dialog box.
<y-origin>	is the vertical coordinate of the upper left corner of the dialog box.
<box-width>	is the width of the dialog box.
<box-height>	is the height of the dialog box.
<ctrl-count>	is the total number of controls in the dialog box (see below).

Finally, you will need to define the objects, or **controls**, which will appear inside the dialog box. Each control is defined with a line of the following format:

```
<name>nn=`x,y,width,height,type,var,"text",value`
```

where:

nn is the ordinal position of the control in the dialog box (starting with 1).

<name> is the name of the dialog box, as described above.

x is the horizontal coordinate of the upper left corner of the control.

y is the vertical coordinate of the upper left corner of the control.

width is the width of the control.

height is the height of the control. [This should be DEFAULT for all controls except file-list boxes and item boxes.]

type is the type of control, (see below).

var is the name of the variable affected by the control.

text is the description which will be displayed with the control. [Use a null string ("") if the control should appear blank.]

value is the value returned by the control. [Use only for pushbuttons, radiobuttons, and checkboxes.]

Note: The numbers used for "x-origin", "y-origin", "box-width", "box-height", "x", "y", "width," and "height" are expressed in a unit of measure known as "Dialog Units." Basically speaking:

1 width unit	=	1/4 width of system font.
1 height unit	=	1/4 width of system font.
4 units wide	=	Average width of the system font.
8 units high	=	Average height of the system font.

There are seven types of controls available:

PUSHBUTTON A button, which can be labeled and used as desired. When the user presses a pushbutton, the **Dialog** function will exit and will return the "value" assigned to the button which was pressed. Therefore, you should assign a unique "value" to each pushbutton in a dialog. Pushbuttons with values of 0 and 1 have special meaning. If the user presses a pushbutton which has a value of **0**, the WIL program will be terminated (or will go to the label marked ":CANCEL", if one is defined); this corresponds to the behavior of the familiar **Cancel** button. A pushbutton with a value of **1** is the default pushbutton, and will be selected if the user presses the **Enter** key; this corresponds to the behavior of the familiar **OK** button. For pushbuttons, "var" should be DEFAULT. **Note**: Every dialog box must contain at least one pushbutton.

RADIOBUTTON One of a group of circular buttons, only one of which can be "pressed" (filled in) at any given time. You can have more than one group of radio buttons in a dialog box, but each group must use a different "var". When the **Dialog** function exits, the value of "var" will be equal to the "value" assigned to the radiobutton which is pressed. Therefore, you should assign a unique "value" to each radiobutton in a group. Normally, when a dialog box opens, the default radiobutton in each group (i.e., the one which is pressed) is the one which has a value of 1.

You can change this by assigning a different value to "var" before calling the **Dialog** function.

CHECKBOX A square box, in which an "X" appears when selected. A check box can have a value of **0** (unchecked) or **1** (checked). Each checkbox in a dialog should use a unique "var". Normally, when a dialog box opens, every checkbox defaults to being unchecked. You can change this by assigning a value of 1 to "var" before calling the **Dialog** function. Note for advanced users only: it is possible to define a group of checkboxes which have the same "var". Each box in the group must have a unique value, which must be a power of 2 (1, 2, 4, etc.). The user can check and uncheck individual checkboxes in the group, and when the **Dialog** function exits the value of "var" will be equal to the values of all the checkboxes in the group, combined using the bitwise OR operator (|).

EDITBOX A box in which text can be typed. Whatever the user types in the editbox will be assigned to the variable "var". Normally, when a dialog box opens, editboxes are empty. You can change this by assigning a value to the string variable "var" before calling the **Dialog** function, in which case the value of "var" will be displayed in the editbox.

Note: Variable names that begin with "PW_", will be treated as password fields causing asterisks to be echoed for the actual characters that the user types.

STATICTEXT Descriptive text, which does not change. This can be used to display titles, instructions, etc. For static text controls, "var" should be DEFAULT.

VARYTEXT Variable text. The current value of "var" is displayed. If "var" is not assigned a value in the WIL program before calling the **Dialog** function, the "text" field of the control definition will be used.

ITEMBOX A selection list box. The variable "var" is assumed to contain a tab delimited list. The list is loaded into the list box in the original order (Use the **ItemSort** function is a sorted list is desired.). The user may choose none, one, or more items in the list. When the dialog box is closed, the selected items are returned via the "var" variable as a tab delimited list. If the user selects more than 99 items an error will occur.

FILELISTBOX A file selection list box. This will allow the user to select a file from any directory or drive on the system. The value of "var" will be set to the selected filename; if you need to know what directory the file is in, use the **DirGet** function after the **Dialog** function exits. Normally, when a dialog box opens, filelist boxes display files matching a filemask of "*.*" (i.e., all files). You can change this by assigning a different filemask value to the string variable "var" before calling the **Dialog** function. Normally, if a dialog contains a filelistbox, you must select a file from the list box before you can exit the dialog. You can change this behavior by placing the statement **IntControl(4, 0, 0, 0, 0)** anywhere in your WIL program prior to the **Dialog** statement. In combination with the filelistbox, you can include an EDITBOX control which has the same "var" name as the filelistbox. If you do, the user can type a filemask into the editbox (eg., "*.TXT"), which will cause the filelistbox to be redrawn to display only those files which match the specified filemask. Also in combination with the filelistbox, you can include a

VARYTEXT control which has the same "var" name as the filelistbox. If you do, this control will show the name of the directory currently displayed in the filelistbox. For filelistboxes, "text" should be DEFAULT.

Note: You can have only one filelistbox in a dialog.

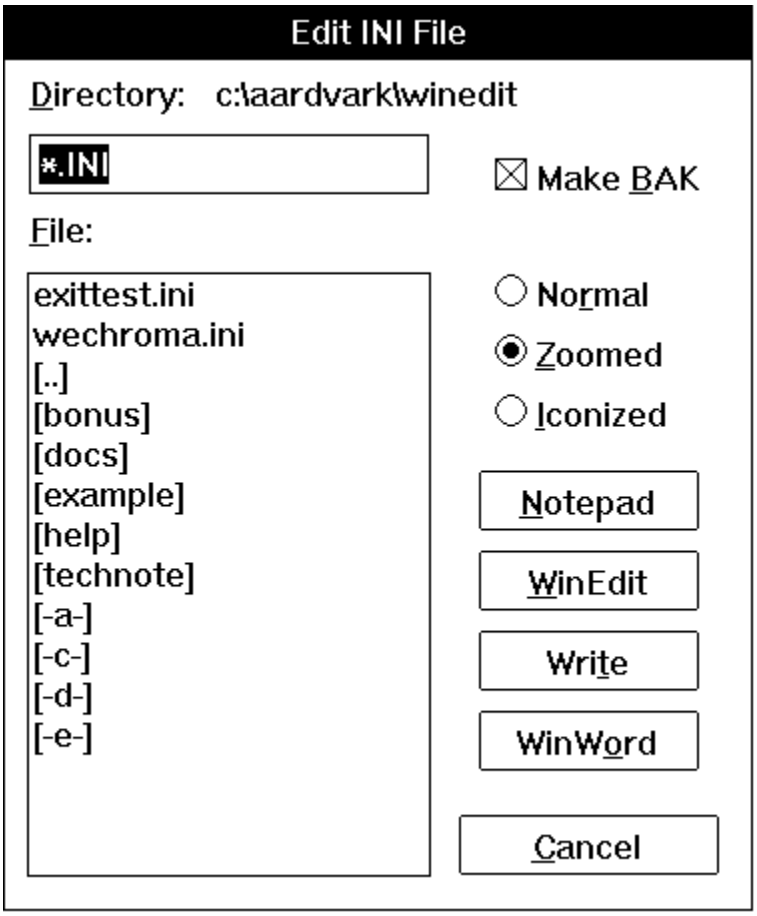
You can have a maximum of 100 controls in a dialog.

Example:

```
; Define the dialog format
EditFormat=`WWWDLGED,5.0`
EditCaption=`Edit INI File`
EditX=80
EditY=40
EditWidth=150
EditHeight=170
EditNumControls=14
Edit01=`5,3,40,DEFAULT,STATICTEXT,DEFAULT,"&Directory:"`
Edit02=`42,3,100,DEFAULT,VARYTEXT,editfile,""`
Edit03=`5,15,80,DEFAULT,EDITBOX,editfile,""`
Edit04=`5,30,40,DEFAULT,STATICTEXT,DEFAULT,"&File:"`
Edit05=`5,43,80,125,FILELISTBOX,editfile,DEFAULT`
Edit06=`98,17,44,DEFAULT,CHECKBOX,backup,"Make &BAK",1`
Edit07=`98,40,40,DEFAULT,RADIOBUTTON,state,"No&rmal",1`
Edit08=`98,52,40,DEFAULT,RADIOBUTTON,state,"&Zoomed",2`
Edit09=`98,64,40,DEFAULT,RADIOBUTTON,state,"&Iconized",3`
Edit10=`95,82,44,DEFAULT,PUSHBUTTON,DEFAULT,"&Notepad",1`
Edit11=`95,98,44,DEFAULT,PUSHBUTTON,DEFAULT,"&WinEdit",2`
Edit12=`95,114,44,DEFAULT,PUSHBUTTON,DEFAULT,"Wri&te",3`
Edit13=`95,130,44,DEFAULT,PUSHBUTTON,DEFAULT,"WinW&ord",4`
Edit14=`91,151,52,DEFAULT,PUSHBUTTON,DEFAULT,"&Cancel",0`

editfile = "*.INI"        ; Set default mask for filelistbox
backup = 1                ; Set the checkbox to be on by default
state = 2                 ; Set the 2nd radio button as the default


; Display the dialog, and wait for the user to press one of the
; pushbuttons.  The variable "retval" will be equal to the value of
; whichever pushbutton is pressed
while @TRUE
    retval = Dialog("Edit")
    ; If the user didn't select a valid file, re-display the dialog
    If FileExist(editfile) Then break
endwhile


; Find out if the checkbox was checked, and proceed accordingly
If backup == 1
    bakfile = StrCat(FileRoot(editfile), ".BAK")
    FileCopy(editfile, bakfile, @TRUE)
endif

; Find out which radio button was pressed, and set the variable
```

```
; "runcmd" to the name of the appropriate member of the Run "family"
Switch state
    case 1
        runcmd = "Run"
        break
    case 2
        runcmd = "RunZoom"
        break
    case 3
        runcmd = "RunIcon"
        break
endswitch

; Set the variable "editor", based on the pushbutton that was pressed
Switch retval
    case 1
        editor = "notepad.exe"
        break
    case 2
        editor = "c:\win\edit\winedit.exe"
        break
    case 3
        editor = "write.exe"
        break
    case 4
        editor = "c:\word\winword.exe"
        break
endswitch



; Execute the appropriate command (using variable substitution)
%runcmd%(editor, editfile)
Exit

:cancel
; If we got here, it means the user pressed the Cancel pushbutton
Message(EditCaption, "Operation cancelled")
```

produces:



See Also:

AskLine, AskPassword, AskYesNo, IntControl, AskItemList

Gets directory attributes.

Syntax:

DirAttrGet([d:]path)

Parameters:

(s) [d:]path directory pathname whose attributes you want to determine.

Returns:

(s) the attributes of the specified directory pathname.

Returns attributes for the specified directory, in a string of the form "RASH". This string is composed of four individual attribute characters, as follows:

Char	Symbol	Meaning
1	R	Read-only ON
2	A	Archive ON
3	S	System ON
4	H	Hidden ON

A hyphen in any of these positions indicates that the specified attribute is OFF. For example, the string "-A-H" indicates a directory which has the Archive and Hidden attributes set.

Example:

```
dir = "c:\temp"
attr = DirAttrGet(dir)
Message("Attributes of Directory, %dir", attr)
```

See Also:

DirAttrSet, FileAttrGet, FileAttrSet, FileTimeGet

Sets directory attributes.

Syntax:

DirAttrSet(dir-list, settings)

Parameters:

(s) dir-list	a list of one or more sub-directory names.
(s) settings	new attribute settings for the directories.

Returns:

(s) always 0.

The attribute string consists of one or more of the following characters (an upper case letter turns the specified attribute ON, a lower case letter turns it OFF):

Symbol	Meaning
R	read only ON
A	archive ON
S	system ON
H	hidden ON
r	read only OFF
a	archive OFF
s	system OFF
h	hidden OFF

Example:

```
DirAttrSet("c:\temp", "rASh")
```

See Also:

DirAttrGet, FileAttrGet, FileAttrSet , FileTimeGet, FileTimeTouch

Changes the current directory. Can also log a new drive.

Syntax:

DirChange ([d:]path)

Parameters:

(s) [d:]	an optional disk drive to log onto.
(s) path	the desired path.

Returns:

(i) **@TRUE** if directory was changed;
@FALSE if the path could not be found.

Use this function to change the current working directory to another directory, either on the same or a different disk drive.

Example:

```
DirChange("c:\")
a = AskFileText("Your CONFIG.SYS", "config.sys", @unsorted, @single)
Message("Contents of selected line, if any", a)
```

See Also:

DirExist, DirGet, DirHome, LogDisk

Tests for the existence of a directory.

Syntax:

DirExist(pathname)

Parameters:

(s) pathname complete drive and path.

Returns:

(i) **@TRUE** if the directory exists;
@FALSE if it doesn't exist or if the pathname is invalid.

You can use this function to determine whether a specified drive is valid by checking for the existence of the root directory on that drive.

Examples:

```
; This example checks to see if a directory c:\wp exists.  If it ;doesnt one is
created.
wpdir = "c:\wp"
If !DirExist(wpdir) Then DirMake(wpdir)
DirChange(wpdir)

; This section asks the user to input a drive, and then checks its
; existence.
while @TRUE       ; Loop forever, until break or exit
     drive = AskLine("Run Excel", "Enter a drive letter", "")
     If drive == "" Then Exit
     drive = StrSub(drive, 1, 1)
     If DirExist("%drive%:\") then Break
endwhile
Message("Selected Drive", drive)
```

See Also:

DirChange, DirMake, DirRemove, DirRename, AppExist, FileExist, DiskExist

Gets the current working directory.

Syntax:

DirGet ( )

Parameters:

(none)

Returns:

(s) current working directory.

Use this function to determine which directory we are currently in. It's especially useful when changing drives or directories temporarily.

Example:

```
; Get, then restore current working directory
origdir = DirGet()
DirChange("c:\")
FileCopy("config.sys", "%origdir%xxxtemp.xyz", @FALSE)
DirChange(origdir)
```

See Also:

CurrentFile, CurrentPath, DirHome, DirWindows

Returns directory containing the WIL Interpreter's executable files.

Syntax:

DirHome ( )

Parameters:

(none)

Returns:

(s) pathname of the home directory.

Use this function to determine the directory where the current WIL Interpreter's executable files are stored.

Example:

```
a = DirHome()
Message("WIL Executable is in ", a)
```

See Also:

DirGet, DirWindows

Returns a space-delimited list of directories.

Syntax:

DirItemize (dir-list)

Parameters:

(s) dir-list a string containing a set of sub-directory names, which may be wildcarded.

Returns:

(s) list of directories.

This function compiles a list of sub-directories and separates the names with spaces.

This is especially useful in conjunction with the **AskItemList** function, which enables the user to choose an item from such a space-delimited list.

DirItemize("*.*") returns all sub-directories under the current directory.

Note: Some shell or file manager applications using the WIL Interpreter allow an empty string (**""**) to be used as the "dir-list" parameter, in which case all sub-directories highlighted in the file display are returned. However, if there are any directory names or wildcards in the string, all sub-directories matching the pathnames are returned, regardless of which ones are highlighted.

Note: In the 32-bit version of WIL, the "default" file delimiter used to delimit lists of files and directories, has been changed to a TAB. In the 16-bit version of WIL, the "default" delimiter has not changed, and remains a space. We have added the ability to change the file delimiter to a character of your own choosing, using IntControl 29.

Example:

```
a = DirItemize("*.*")
AskItemList("Directories", a, " ", @unsorted, @single)
```

See Also:

CurrentFile, FileItemize, AskItemList, AskFileText, WinItemize

Creates a new directory.

Syntax:

DirMake ([d:]path)

Parameters:

(s) [d:]	the desired disk drive.
(s) path	the path to create.

Returns:

(i) **@TRUE** if the directory was successfully created;
@FALSE if it wasn't.

Use this function to create a new directory.

Example:

```
DirMake("c:\xxxstuff")
```

See Also:

DirExist, DirRemove, DirRename

Removes a directory.

Syntax:

DirRemove (dir-list)

Parameters:

(s) dir-list a space-delimited list of directory pathnames.

Returns:

(i) **@TRUE** if the directory was successfully removed;
@FALSE if it wasn't.

Use this function to delete directories. You can delete one or more at a time by separating directory names with spaces. You cannot, however, use wildcards.

Note: In the 32-bit version of WIL, the "default" file delimiter used to delimit lists of files and directories, has been changed to a TAB. In the 16-bit version of WIL, the "default" delimiter has not changed, and remains a space. We have added the ability to change the file delimiter to a character of your own choosing, using IntControl 29.

Examples:

```
DirRemove("c:\xxxstuff")

DirRemove("tempdir1 tempdir2 tempdir3")
```

See Also:

DirExist, DirMake, DirRename

Renames a directory.

Syntax:

DirRename ([d:]oldpath, [d:]newpath)

Parameters:

(s) oldpath	existing directory name, with optional drive.
(s) newpath	new name for directory.

Returns:

(i) **@TRUE** if the directory was successfully renamed;
@FALSE if it wasn't.

Example:

```
DirRename("c:\temp", "c:\work")
```

See Also:

DirExist, DirMake, DirRemove

Returns the name of the Windows or Windows System directory.

Syntax:

DirWindows (request#)

Parameters:

(i) request# see below.

Returns:

(s) directory name.

This function returns the name of either the Windows directory or the Windows System directory, depending on the request# specified.

Req#	Return value
0	Windows directory
1	Windows System directory

Example:

```
DirChange(DirWindows(0))
files=FileItemize("*.ini")
ini = AskItemList("Select file", files, " ",@unsorted, @single)
Run("notepad.exe", ini)
```

See Also:

DirGet, DirHome

Tests for the existence of a drive.

Syntax:

DiskExist(driveletter)

Parameters:

(s) driveletter drive being tested.

Returns:

(i) **@TRUE** if the drive was found;
@FALSE if the drive was not found.

Use this function to test for the existence of a specific disk drive.

Example:

```
b="A:"
a=DiskExist(b)
if a
     Message("Directory Exists", b)
else
     Message("Directory Does Not Exist", b)
endif
```

See Also:

AppExist, FileExist, DirExist, DiskScan, DiskFree, LogDisk

Finds the total space available on a group of drives.

Syntax:

DiskFree (drive-list)

Parameters:

(s) drive-list one or more drive letters, separated by spaces.

Returns:

(i) the number of bytes available on all the specified drives.

This function takes a string consisting of drive letters, separated by spaces. Only the first character of each non-blank group of characters is used to determine the drives, so you can use just the drive letters, or add a colon (:), or add a backslash (\), or even a whole pathname, and still get a perfectly valid result.

Example:

```
size = DiskFree("c d")
Message("Space Available on C: and D:", size)
```

See Also:

DiskScan, FileSize

Finds the total space available on a group of drives.

Syntax:

DiskSize (drive-list)

Parameters:

(s) drive-list one or more drive letters, separated by spaces.

Returns:

(i) the total size of a selected disk.

This function takes a string consisting of drive letters, separated by spaces. Only the first character of each non-blank group of characters is used to determine the drives, so you can use just the drive letters, or add a colon (:), or add a backslash (\), or even a whole pathname, and still get a perfectly valid result. Results larger than 2 gigabytes will be returned as a floating point number.

Example:

```
size = DiskSize("c")
Message("Size of C:", size)
```

See Also:

DiskScan, FileSize

Returns list of drives.

Syntax:

DiskScan (request#)

Parameters:

(i) request# see below.

Returns:

(s) drive list.

Scans disk drives on the system, and returns a space-delimited list of drives of the type specified by request#, in the form "A: B: C: D: ".

The request# is a bitmask, so adding the values together (except for 0) returns all drive types specified; eg., a request# of 3 returns floppy plus local hard drives.

Req#	Return value
0	List of unused disk IDs
1	List of removable (floppy) drives
2	List of local fixed (hard) drives
4	List of remote (network) drives
8	CD-ROM (32 bit versions of WIL only)
16	RamDisk (32 bit version of WIL only)

Note: In the 32-bit version of WIL, the "default" file delimiter used to delimit lists of files and directories, has been changed to a TAB. In the 16-bit version of WIL, the "default" delimiter has not changed, and remains a space. We have added the ability to change the file delimiter to a character of your own choosing, using IntControl 29.

Example:

```
hd = DiskScan(2)
Message("Hard drives on system", hd)
```

See Also:

DiskFree, LogDisk

Displays a message to the user for a specified period of time.

Syntax:

Display (seconds, title, text)

Parameters:

(i) seconds	seconds to display the message (1-3600).
(s) title	title of the window to be displayed.
(s) text	text of the window to be displayed.

Returns:

(i) **@TRUE** if terminated by user;
@FALSE otherwise.

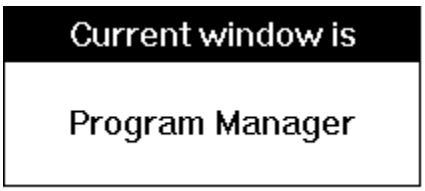
Use this function to display a message for a few seconds, and then continue processing without user input. **Seconds** must be an integer between 1 and 3600. Smaller or larger numbers will be adjusted accordingly.

The user can make the displayed message disappear before the designated time has elapsed by clicking a mouse button, or by pressing any key. If the user terminates the function in this manner, it will return a value of @TRUE; otherwise, it will return @FALSE.

Example:

```
Display(3, "Current window is", WinGetActive())
```

which produces something like this:



See Also:

Message, Pause

Calls an external DLL.

Syntax:

DllCall(dllname, returntype:epname, paramtype:parameter [paramtype:parameter ...])

Parameters:

(s) dllname	The name of the Dll to be called, or a handle returned by the **DllLoad** function.
(t) returntype:	Type of value the Dll entry point will return (see below).
(s) epname	Entry point name into the Dll.
(t) paramtype	Type of parameter (see below).
(?) parameters	Parameters as required by the entry point.

Returns:

Value returned by the DllCall depends on the external Dll. It may be either a integer or a string. See discussion below.

The DllCall function is unlike all other WIL functions. It is designed to allow sophisticated users to either write their own extensions to the WIL language (using the Windows SDK), to call third party Dlls, or to access Windows APIs directly.

In order to use this function properly, a little background is necessary. There exists a number of very specific reasons one would want to call an external DLL to process some code. Examples may include calling Dlls to interface with certain hardware devices, to perform special compute-intensive algorithms, or to perform a series of functions not possible using the WIL language. In many cases, the user has no control over the DLLs to be called, so that the WIL **DllCall** statement must be able to call a wide variety of Dlls, to be able to pass an assortment of different parameter types, and to be able to process a number of different return values.

For this reason, the **DllCall** syntax is complicated and initially confusing. Use of the **DllCall** requires detailed understanding of Windows programming and complete documentation for the Dll and the Dll entry point being called. If you need tech support help with the **DllCall** statement, you must fax pertinent documentation before calling for help.

To call an external Dll, the user must first determine the following information:

1) Name of the DLL.
2) Entry point name of the desired function within the Dll.
3) Type of the return value from the Dll.
4) Number of passed parameters the Entry point requires.
5) Type of each of the passed parameters.

WIL supports the following types of return types from a Dll:

1)	word	16 bit integer
2)	long	32 bit integer
3)	lpstr	32 bit pointer to a string
4)	void	no return value

WIL supports the following parameter types to pass data to a Dll:

1)	word	16 bit integer
2)	long	32 bit integer
3)	lpstr	32 bit pointer to a string
4)	lpnull	32 bit NULL pointer
5)	lpbinary	32 bit pointer to a memory block allocated with the **BinaryAlloc** function. See section on Binary Operations.

Note: If **lpbinary** is used to pass information from a Dll back to a WIL script via a **DllCall**, then be sure to use **BinaryEodSet** to manually set the end of data point so that the other binary functions can reference the returned data.

The DllCall parameters are as follows:

First: The first parameter defined the Dll to be used. It can either be a dllname or a dllhandle. A dllname may be used for "oneshot" types of calls where a single call to the Dll is all that is required, or when each call to the Dll is independent of all other calls. A dllhandle is used for multiple calls to a Dll, where the calls are interrelated -- perhaps the first call to initialize the Dll, other calls use it, and a final call to terminate processing. In such cases the Dll must first be loaded with the **DllLoad** function, and freed with the **DllFree** function. The first parameter must be one of the following:

dllname: Simply the filename of the Dll that contains the desired entry point name. A single Dll may contain one to many separate entry points. Each entry point may have its own unique return type and parameter list.

dllhandle: A handle do a Dll obtained from the **DllLoad** function.

Second: The second parameter consists of two parts, the first part is the return type of the entry point desired, followed by a colon (:), and the second part is the entry point name itself.

Note: Only use the **lpstr** return type for text strings. Even though some other documentation might suggest using a **lpstr** as a return type for its structures, dont. Use **long** instead.

For each parameter the entry point requires, an additional parameter is added to the **DllCall** parameter list. If the entry point has no parameters, then the **DllCall** function uses only the first and second parameters as described above.

Additional: For each parameter that the entry point in the Dll requires, additional **DllCall** parameters are added. Each additional parameter consists of two parts, the first part is the parameter type of the required parameter, followed by a colon (:), and the second part is the parameter itself.

Example:

```
; DllCall example.
; This example calls the AnsiUpper API in the Windows User module.
; For some reason, the main Windows DLLs uses the EXE extension
; even though they are really DLLs.  The AnsiUpper function
; requires a 32 bit pointer to a string (lpstr).
; It converts the string to uppercase and passes back a 32 bit
; pointer (also lpstr)  to the uppercased string.
; The AnsiUpper function is found in the Windows USER.EXE Dll.
; As the USER.EXE file is on the search path, no other
; path/directory information is required.
; Note:     Dll Name, being a normal string is in quotes.
;           Entry point name, also being a string, is also in quotes
;           Parameter a0, being a normal variable is not in quotes.

a0="Hello Dolly"
a1=DllCall("USER.EXE", lpstr:"AnsiUpper", lpstr:a0)
Message(a0,a1)
```

See Also:

Binary Operations, DllCall Additional information, DllLoad, DllFree, DllHwnd, DllHinst

In 16 bit versions of Windows, functions that are called using DllCall must use the _pascal calling convention (declared as FAR PASCAL or WINAPI). In 32 bit versions of Windows, they must use the __stdcall calling convention (declared as WINAPI). Otherwise, DllCall will return a "Bad Entrypoint" or "Bad Parameter List" error message, even though you have specified the correct function name and parameter types; this would likely indicate that the function is using an unsupported calling convention.

Problem:

Under 32-bit Windows, using DllCall to call a function in a custom DLL that you've developed produces the error message:

"NT DllCall: Bad Parameter List"

followed by the error message:

"1379: DllCall: Bad type list caused stack problems.
Check types carefully."

First check the number of parameters and the parameter types carefully to make sure that they are indeed correct. If they are, it is likely that the problem is due to your function using the __cdecl calling convention, instead of the required __stdcall. To change this, follow these steps:

1. Add the keyword "WINAPI" to your function prototype and declaration:

```
LONG WINAPI MyFunction(LPSTR);
LONG WINAPI MyFunction(LPSTR lpString)
```

This ensures that the function will use the __stdcall calling convention, instead of the default __cdecl convention. DllCall requires __stdcall, in which the called function is responsible for removing the parameters from the stack (similar to _pascal in 16 bit versions of Windows). The WIL program checks the stack pointer before and after the DllCall; if they are not the same, this indicates that either (1) you did not specify the correct parameters to DllCall, or (2) the called function did not clean up the stack properly (probably because it wasn't using __stdcall).

Alternatively, in Visual C++ you can use the "/Gz" compiler option (or set Calling Convention to "__stdcall" under "Project | Settings | C/C++ | Category: Code Generation" in the IDE) to make all your functions use __stdcall, but it's wise to specify WINAPI in the declarations as well.

2. Add the option "/EXPORT:MyFunction" to the (VC++) LINK command line.

Or, if you have more than one exported function, it may be easier to create a module definition (.DEF) file with an EXPORTS section (or add an EXPORTS section to your existing .DEF file):

```
EXPORTS
  MyFunctionA
  MyFunctionB
```

If you use the .DEF file method, you will also need to add the option "/DEF:filename" to the (VC++) LINK command line, where "filename" is the name of your module definition file (by default, VC++ 2.x does not create or use .DEF files).

This is necessary, even if you have specified "__declspec(dllexport)" in the function declaration, because __stdcall "decorates" (mangles) the function name when it is exported, so that in the DLL it becomes:

```
_MyFunction@4
```

where the number following the '@' symbol is the stack space used by the function (the parameter count * 4). This prevents DllCall from accessing the function. Exporting the function using the /EXPORT option (or via the EXPORTS section) causes the real, un-decorated name to be exported.

After you've done this, it's no longer necessary to declare the function as "__declspec(dllexport)", although it certainly wouldn't hurt to do so.

This function frees a Dll that was loaded via the **DllLoad** function.

Syntax:

DllFree(dllhandle)

Parameters:

(s) dllhandle handle of the Dll to be freed.

Returns:

(i) always 0.

Use this function to free Dlls that were loaded with the **DllLoad** function. Failure to free such Dlls will use up system resources.

Example:

```
a0="Hello Dolly"
dllhandle=DllLoad("USER.EXE")
a1=DllCall(dllhandle, lpstr:"AnsiUpper", lpstr:a0)
DllFree(dllhandle)
Message(a0,a1)
```

See Also:

Binary Operations, DllCall, DllCall Additional information, DllLoad

Obtains an application instance handle for use in **DllCalls** when required.

Syntax:

DllHinst(partial-winname)

Parameters:

(s) partial-winname the initial part of, or an entire, window name.

Returns:

(i) an application instance handle.

Use this function to return a valid application instance handle (hInst) of the application owning the specified window.

Note: "Partial-winname" is the initial part of a window name, and may be a complete window name. It is case-sensitive. You should specify enough characters so that "partial-windowname" matches only one existing window. If it matches more than one window, the most recently accessed window which it matches will be used. The windowname "" may be used as a shorthand way of referring to the WIL parent application window.

Example:

```
binbuf=BinaryAlloc(100)
hInst=DllHinst("")
DllCall("KRNL386.EXE",word:"GetModuleFileName",word:hInst,
                                lpbinary:binbuf,word:100)
; Note DllCalls do not set EOD point in buffer.
BinaryEodSet(binbuf, 100)  ;


a=BinaryPeekStr(binbuf, 0, 100)
BinaryFree(binbuf)
Message("Window module filename is", a)
```

See Also:

Binary Operations, DllCall, DllCall Additional information, DllHwnd

Obtains a window handle for use in **DllCalls** when required.

Syntax:

DllHwnd(partial-winname)

Parameters:

(s) partial-winname the initial part of, or an entire, window name.

Returns:

(i) a window handle.

Use this function to return a valid window handle (hWnd) of specified window. Some Dlls require a window handle. This function will provide - in most cases - a usable window handle.

Note: "Partial-winname" is the initial part of a window name, and may be a complete window name. It is case-sensitive. You should specify enough characters so that "partial-windowname" matches only one existing window. If it matches more than one window, the most recently accessed window which it matches will be used. The windowname "" may be used as a shorthand way of referring to the WIL parent application window.

Example:

```
binbuf=BinaryAlloc(100)
hWnd=DllHWnd("")
DllCall("USER.EXE",word:"GetClassName",word:hWnd,lpbinary:binbuf,
                                                    word:100)
; Note DllCalls do not set EOD point in buffer.
BinaryEodSet(binbuf, 100)
a=BinaryPeekStr(binbuf, 0, 100)
BinaryFree(binbuf)
Message("Window class name is", a)
```

See Also:

Binary Operations, DllCall, DllCall Additional information, DllHinst

This function loads a Dll for later use via the **DllCall** function

Syntax:

DllLoad(dllname)

Parameters:

(s) dllname The name of the Dll to be called.

Returns:

(s) a handle to a Dll for use in **DllCall**s.

When multiple calls are to be made to a Dll, and the calls are interdependent, the Dll should be first loaded via the **DllLoad** command, and the return value - a dllhandle - should be passed to the **DllCall** function instead of a filename.

Example:

```
a0="Hello Dolly"
dllhandle=DllLoad("USER.EXE")
a1=DllCall(dllhandle, lpstr:"AnsiUpper", lpstr:a0)
DllFree(dllhandle)
Message(a0, a1)
```

See Also:

Binary Operations, DllCall, DllCall Additional information, DllFree

Returns the version numbers of the current version of DOS.

Syntax:

DOSVersion (level)

Parameters:

(i) level **@MAJOR** or **@MINOR**.

Returns:

(i) integer or decimal part of DOS version number.

@MAJOR returns the integer part (to the left of the decimal).
@MINOR returns the decimal part (to the right of the decimal).

If the version of DOS in use is 5.0, then:

DOSVersion(@MAJOR) == 5
DOSVersion(@MINOR) == 0

Example:

```
i = DOSVersion(@MAJOR)
d = DOSVersion(@MINOR)
If StrLen(d) == 1 Then d = StrCat("0", d)
Message("DOS Version", "%i%.%d%")
```

See Also:

Environment, Version, VersionDLL, WinVersion

Removes variables from memory.

Syntax:

Drop (var, [var...])

Parameters:

(i) var variable names to remove.

Returns:

(i) always 1.

This function removes variables from the WIL Interpreter's variable list, and recovers the memory associated with the variable (and possibly related string storage).

A variable is defined the first time it appears to the left of an equal sign in a statement. It stays defined until it is explicitly dropped with the **Drop** function, or until the current invocation of the WIL Interpreter gets closed.

Generally speaking: in batch file-based implementations of WIL, all variables are dropped automatically at the end of every batch file; and in menu-based implementations of WIL, variables stay defined until explicitly dropped.

Example:

```
a = "A variable"
b = "Another one"
Drop(a, b)  ; This removes A and B from memory
```

See Also:

IsDefined

Ends the Windows session.

Syntax:

EndSession ( )

Parameters:

(none)

Returns:

(i) always 0.

Use this command to end the current Windows session, just like selecting **Close** from Program Manager's control menu. If any active applications pop up dialog boxes in response to this command (such as prompting to save data files which have changed), the user will need to respond to them before Windows will close.

Example:

```
while AskYesNo ("End Session", "You want to exit Windows?")
     EndSession()
endwhile
:cancel
Message("", "Exit Windows canceled")
```

See Also:

Exit, WinClose, WinCloseNot

Gets a DOS environment variable.

Syntax:

Environment (env-variable)

Parameters:

(s) env-variable any defined environment variable.

Returns:

(s) environment variable contents.

Use this function to get the value of a DOS environment variable.

Note: It is **not** possible to change a DOS environment variable from within Windows.

HINT: Use the WWENVMAN.Dll, WIL Environment extender, for enhanced environment management. Further explanations are in WWWENV.HLP.

Example:

```
; Display the PATH for this DOS session
currpath = Environment("PATH")
Message("Current DOS Path", currpath)
```

See Also:

IniRead, Version, WinMetrics, WinParmGet

Changes LOCAL Environment variables.

Syntax:

EnvironSet(name, value)

Parameters:

(s) name — name of environment variable. (See Note 1).
(s) value — desired value.

Returns:

(i) **@TRUE** Environment variable was modified.
@FALSE Unable to modify environment.

Use this function to change the LOCAL environment variables.

16 bit versions

Windows (only - not DOS) applications may be launched with the modified local environment with the **RunEnviron** command. You can use the **EnvironSet** function to modify the local path, and then to launch a program with the **RunEnviron** command. See Note 3 for information on how to alter the path for DOS programs.

32 bit versions

32 bit versions of WIL will always pass the local environment to any programs they launch. In the 32 bit versions, the **RunEnviron** command is identical to the **RunShell** Command.

Note 1: DOS expects UPPERCASE environment variable names. Windows NT and Windows 95 allow mixed upper and lowercase names. If you are using WIL with DOS, be sure to use uppercase names.

Note 2: This command does not increase environment size, so to add to the new values , you must delete something first. An easy way to do this is to simply add a line to the autoexec.bat file that looks like:

```
DUMMY=ABCDEFGHIJKLMNOPQRSTUVWXYZ
```

This DUMMY variable will hold a place in the master environment.

Note 3: To alter the path for DOS programs, all that is required is a simple batch file, and the usual WIL **Run** command. Assuming the case where one wished to run "command.com" with the path "c:\special", a generic batch file as shown below will suffice, along with passing all the information required as parameters in the WIL **Run** command.

```
DoPath.bat     file listing
        SET PATH=%1
        ECHO %PATH%
        PAUSE
        %2    %3    %4    %5    %6    %7    %8    %9
```

WIL **Run** Command

```
        Run("dopath.bat", "c:\special     command.com")
```

HINT: Use the WWENVMAN.Dll, WIL Environment extender, for enhanced environment management. Further explanations are in WWWENV.HLP.

Example:

```
EnvironSet("DUMMY","")
EnvironSet("PATH","X:\EXCEL")
RunEnviron("excel.exe","/E",@NORMAL,@WAIT)
```

See Also:

Environment, EnvItemize, RunEnviron

Returns a delimited list of the current environment.

Syntax:

EnvItemize()

Parameters:

none

Returns:

(s) a list containing all variables in the current environment (See Note).

Use this function to return a list of the variables in the current environment.

Note: This list is delimited by the newline character (ASCII 10), which can be generated with the **Num2Char** function. The returned list is suitable for a message box display. Tabs are not used as a delimiter as they seem to be legal characters within the environment. The **StrReplace** function may be used to change the delimiter to any other character.

HINT: Use the WWENVMAN.Dll, WIL Environment extender, for enhanced environment management. Further explanations are in WWWENV.HLP.

Example:

```
env=EnvItemize()
Message("The Environment is", EnvItemize())
env=StrReplace(env, Num2Char(10), @TAB)
a=AskItemList("Select a Variable", env, @TAB, @SORTED, @SINGLE)
b=Environment(a)
Message(a, b)
```

See Also:

Environment, EnvironSet

Specifies how to handle errors.

Syntax:

ErrorMode (mode)

Parameters:

(i) mode **@CANCEL** or **@NOTIFY** or **@OFF**.

Returns:

(i) previous error setting.

Use this function to control the effects of runtime errors. The default is **@CANCEL**, meaning the execution of the WIL program will be canceled upon any error.

@CANCEL: All runtime errors will cause execution to be canceled. The user will be notified which error occurred.

@NOTIFY: All runtime errors will be reported to the user, and the user can choose to continue if it isn't fatal.

@OFF: Minor runtime errors will be suppressed. Moderate and fatal errors will be reported to the user. User has the option of continuing if the error is not fatal.

In general, we suggest the normal state of the program should be **ErrorMode(@CANCEL)**, especially if you are writing a WIL program for others to use. You can always suppress errors you expect will occur and then re-enable **ErrorMode (@CANCEL)**.

Note: Pay close attention when suppressing errors with the **ErrorMode** function. When an error occurs, the processing of the ENTIRE line is canceled. Setting the **ErrorMode()** to @OFF or @NOTIFY allows execution to resume at the next line. **Various parts of the original line may have not been executed**.

e.g.

```
ErrorMode(@off)
; The FileCopy will cause a file not found error,
; canceling the execution of the whole line.
; The variable A is set to @FALSE by default
     A = FileCopy( "xxxxxxxxx", "*.*", @FALSE)
;
; Now there is a NOT symbol in front of the FileCopy.
; Nonetheless, if an error occurs A is still set to @FALSE
; not @TRUE as might be assumed.  When an error is suppressed
; with ErrorMode the line is canceled, and any assignment is
; simply set to the default @FALSE value.
     A =  !FileCopy("yyyyyyyyy", "*.*", @FALSE)
```

For this reason, **ErrorMode()** must be used with a great deal of care. The function for which the errors are being suppressed should be isolated from other functions and operators as much as possible.

e.g.

```
; INCORRECT  USAGE of ErrorMode()
```

```
; In this instance, when the copy has an error, the entire if
; statement is canceled.
; Execution begins (erroneously) at the next line, and states
; that the copy succeeded.  Next a fatal error occurs as the
; "else" is found, since it does not have a matching if
ErrorMode(@OFF)
if FileCopy(file1,file2,@FALSE) == @TRUE
     Message("Info", "Copy worked")
else
     Message("Error", "Copy failed")
endif


; CORRECT USAGE
; In this case, the FileCopy is isolated from other statements
; and flow control logic.  When the statement fails, execution
; can safely begin at the next line.  The variable "a" will
; contain the default value of zero that a failed assignment
; returns.
; Results are not confused by the presence of other operators.


ErrorMode(@OFF)
a = FileCopy(file1,file2,@FALSE)
ErrorMode(@CANCEL)
if   a == @TRUE
     Message("Info", "Copy worked")
else
     Message("Error", "Copy failed")
endif
```

See Also:

Debug, Execute, LastError

Controls whether or not other Windows programs will get any time to execute.

Syntax:

Exclusive (mode)

Parameters:

(i) mode **@ON** or **@OFF**.

Returns:

(i) previous **Exclusive** mode.

Exclusive(@OFF) is the default mode. In this mode, the WIL Interpreter is well-behaved toward other Windows applications.

Exclusive(@ON) allows WIL programs to run somewhat faster, but causes the WIL Interpreter to be "greedier" about sharing processing time with other active Windows applications. For the most part, this mode is useful only when you have a series of WIL statements which must be executed in quick succession.

Note: This function is generally useful in the 16 bit versions of Windows. In versions of Windows with true multi-tasking, the effects of this function are negligible.

Example:

```
Exclusive(@ON)
x = 0
start = TimeDate()
:add
x = x + 1
If x < 1000 Then Goto add

stop = TimeDate()
crlf = StrCat(Num2Char(13), Num2Char(10))

Message("Times", "Start: %start%%crlf%Stop:  %stop%")
Exclusive(@OFF)
```

See Also:

Yield

Executes a statement in a protected environment. Any errors encountered are recoverable.

Syntax:

Execute statement

Parameters:

(s) statement any executable WIL statement.

Returns:

(not applicable)

Use this command to execute computed or user-entered statements. Due to the built-in error recovery associated with **Execute**, it is ideal for interactive execution of user-entered commands.

Note that the **Execute** command doesn't operate on a string, *per se*, but rather on a direct statement. If you want to put a code segment into a string variable, you must use the substitution feature of the language, as in the example below.

Example:

```
cmd = ""
cmd = AskLine("WIL Interactive", "Command:", cmd)
Execute %cmd%
```

See Also:

ErrorMode

Returns an integer describing the type of EXE file specified.

Syntax:

ExeTypeInfo(EXENAME)

Parameters:

(s)EXENAME the name of the desired .EXE, .COM, .PIF, .BAT file or data file.

(Returns:

(i) integer 0 = not an EXE file.
1 = Old style DOS EXE.
2 = New Style DOS EXE.
3 = Windows EXE.
10 = Windows NT EXE

Use this function to return an integer describing and identifying the type of EXE file specified.

Example:

```
a=ExeTypeInfo("Notepad.exe")
switch a
     case 0
            b="Not an EXE file"
            break
     case 1
            b="Old DOS EXE"
            break
     case 2
            b="New DOS EXE"
            break
     case 3
            b="Windows EXE"
            break
     case 10
            b="Windows NT EXE"
            break
     case a
            b="Unknown file type, value = %a%"
            break
endcase
 Message("File Type", b)
```

See Also:

AskFileName, FileFullName, FileMapName

Unconditionally ends a WIL program.

Syntax:

Exit

Parameters:

(none)

Returns:

(not applicable)

Use this command to immediately terminate a WIL program. An **Exit** is implied at the end of each top-level WIL program, and so is not necessary there.

Example:

```
a = 100
Message("The value of a is", a)
Exit
```

See Also:

Pause, Return, Terminate

Calculates the exponential.

Syntax:

Exp(*x*)

Parameters:

(f) *x* floating point number.

Returns:

(f) the value of the exponential (e ** x).

The exp function returns the exponential function of the floating point argument (x).

Example:

```
real=AskLine("Exponential", "Enter a number", "1.23")
answer=Exp(real)
Message("Exponential of %real% degrees is",answer)
```

See Also:

LogE

Calculates the absolute value of a floating-point argument.

Syntax:

Fabs(*x*)

Parameters:

(f) *x* floating point number.

Returns:

(f) returns the absolute value of the argument.

Use this function to calculate the absolute value of a floating point argument. There is no error return.

Example:

```
a = -1.23
Message("Fabs(%a%) is", Fabs(a))
```

See Also:

<none>

Appends one or more files to another file.

Syntax:

FileAppend (source-list, destination)

Parameters:

(s) source-list a string containing one or more filenames, which may be wildcarded.
(s) destination target file name.

Returns:

(i) **@TRUE** if all files were appended successfully;
@FALSE if at least one file wasn't appended.

Use this function to append an individual file or a group of files to the end of an existing file. If **destination** does not exist, it will be created.

The file(s) specified in **source-list** will not be modified by this function.

Source-list may contain ***** and **?** wildcards. **Destination** may not contain wildcards of any type; it must be a single file name.

Note: In the 32-bit version of WIL, the "default" file delimiter used to delimit lists of files and directories, has been changed to a TAB. In the 16-bit version of WIL, the "default" delimiter has not changed, and remains a space. We have added the ability to change the file delimiter to a character of your own choosing, using IntControl 29.

Examples:

```
FileAppend("c:\config.sys", "c:\misc\config.sav")

DirChange("c:\batch")
FileDelete("allbats.fil")
FileAppend("*.bat", "allbats.fil")
```

See Also:

FileCopy, FileDelete, FileExist

Returns file attributes.

Syntax:

FileAttrGet (filename)

Parameters:

(s) filename file whose attributes you want to determine.

Returns:

(s) attribute settings.

Returns attributes for the specified file, in a string of the form "RASH". This string is composed of four individual attribute characters, as follows:

Char	Symbol	Meaning
1	R	Read-only ON
2	A	Archive ON
3	S	System ON
4	H	Hidden ON

A hyphen in any of these positions indicates that the specified attribute is OFF. For example, the string "-A-H" indicates a file which has the Archive and Hidden attributes set.

Example:

```
editfile = "c:\config.sys"
attr = FileAttrGet(editfile)
If StrSub(attr, 1, 1) == "R"
     Message("File is read-only", "Cannot edit %editfile%")
else
     Run("notepad.exe", editfile)
endif
```

See Also:

FileAttrSet, FileTimeGet

Sets file attributes.

Syntax:

FileAttrSet (file-list, settings)

Parameters:

(s) file-list	space-delimited list of files.
(s) settings	new attribute settings for those file(s).

Returns:

(i) always 0.

The attribute string consists of one or more of the following characters (an upper case letter turns the specified attribute ON, a lower case letter turns it OFF):

R	read only ON
A	archive ON
S	system ON
H	hidden ON
r	read only OFF
a	archive OFF
s	system OFF
h	hidden OFF

File list may contain ***** and **?** wildcards.

Note: In the 32-bit version of WIL, the "default" file delimiter used to delimit lists of files and directories, has been changed to a TAB. In the 16-bit version of WIL, the "default" delimiter has not changed, and remains a space. We have added the ability to change the file delimiter to a character of your own choosing, using IntControl 29.

Examples:

```
FileAttrSet("win.ini system.ini", "rAsH")

FileAttrSet("c:\command.com", "R")
```

See Also:

FileAttrGet, FileTimeTouch

Closes a file.

Syntax:

FileClose (filehandle)

Parameters:

(i) filehandle same integer that was returned by **FileOpen**.

Returns:

(i) always 0.

Example:

```
; the hard way to copy an ASCII file
old = FileOpen("config.sys", "READ")
new = FileOpen("sample.txt", "WRITE")
while @TRUE       ; Loop till break do us end
     x = FileRead(old)
     If x == "*EOF*" Then Break
     FileWrite(new, x)
endwhile
FileClose(new)
FileClose(old)
```

See Also:

FileOpen, FileRead, FileWrite

Compares two files and reports on the result.

Syntax:

FileCompare(filename1, filename2)

Parameters:

(s) filename1	name of first file to compare
(s) filename2	name of second file to compare

Returns:

(i) compare result. Possible values are:

0	Files contents are identical.
1	Files are same size but different - first file is newer.
-1	Files are same size but different - second file is newer.
2	Files are different - first file is newer.
-2	Files are different - second file is newer.
3	Second file missing - only first file exists.
-3	First file missing - only second file exists.
4	Neither file exists.

Use this function to compare two files to determine if they are identical or not. If the return value is zero, the file contents are identical. If the return value is not zero, the actual value provides additional information on why they didnt compare. An actual byte by byte compare is performed only if the file sizes are identical, otherwise it is obvious that the files must be different.

Example:

```
;Assuming a copy of win.ini has been previously made to win.sav
a=FileCompare("WIN.INI", "WIN.SAV")
if a==0
     Message("Info", "WIN.INI not modified")
else
     Message("Alert!", "WIN.INI has been modified")
endif
```

See Also:

ExeTypeInfo, FileCopy, FileMove, FileDelete

Copies files.

Syntax:

FileCopy (source-list, destination, warning)

Parameters:

(s) source-list a string containing one or more filenames, which may be wildcarded.
(s) destination target file name.
(i) warning **@TRUE** if you want a warning before overwriting existing files;
@FALSE if no warning desired.

Returns:

(i) **@TRUE** if all files were copied successfully;
@FALSE if at least one file wasn't copied.

Use this function to copy an individual file, a group of files using wildcards, or several groups of files by separating the names with spaces.

You can also copy files to any **COM** or **LPT** device, but **do not** place a colon after the name of the device.

Source list-and destination may contain ***** and **?** wildcards.

Note: In the 32-bit version of WIL, the "default" file delimiter used to delimit lists of files and directories, has been changed to a TAB. In the 16-bit version of WIL, the "default" delimiter has not changed, and remains a space. We have added the ability to change the file delimiter to a character of your own choosing, using IntControl 29.

Examples:

```
FileCopy("c:\command.com", "d:\", @FALSE)

FileCopy("*.ini  *.cfg", "*.bak", @TRUE)

FileCopy("c:\config.sys", "LPT1", @FALSE)
```

See Also:

FileDelete, FileExist, FileLocate, FileMove, FileRename

Deletes files.

Syntax:

FileDelete (file-list)

Parameters:

(s) file-list a string containing one or more filenames, which may be wildcarded.

Returns:

(i) **@TRUE** if all the files were deleted;
@FALSE if a file didn't exist or is marked with the READ-ONLY attribute.

File list- may contain ***** and **?** wildcards.

Use this function to delete an individual file, a group of files using wildcards, or several groups of files by separating the names with spaces.

Note: In the 32-bit version of WIL, the "default" file delimiter used to delimit lists of files and directories, has been changed to a TAB. In the 16-bit version of WIL, the "default" delimiter has not changed, and remains a space. We have added the ability to change the file delimiter to a character of your own choosing, using IntControl 29.

Example:

```
FileDelete("*.bak temp???.fil")
```

See Also:

FileExist, FileLocate, FileMove, FileRename

Tests for the existence of files.

Syntax:

FileExist (filename)

Parameters:

(s) filename either a fully qualified filename with drive and path, or just a filename and extension.

Returns:

(i) **@TRUE** if the file exists;
@FALSE if it doesn't exist or if the pathname is invalid.
2 - if the specified file exists but is currently open by another application in read deny mode.

This function is used to test whether or not a specified file exists.

If a fully-qualified file name is used, only the specified drive and directory will be checked for the desired file. If only the root and extension are specified, then first the current directory is checked for the file, and then, if the file is not found in the current directory, all directories in the DOS path are searched.

FileExist returns "2" if the specified file exists but is currently open by another application in read deny mode. If you try to access this file using (most of) the other "File..." functions, it will cause a sharing violation.

Examples:

```
; check for file in current directory
fex = FileExist(StrCat(DirGet(), "myfile.txt"))
tex = StrSub("NOT", 1, StrLen("NOT") * fex)
Message("MyFile.Txt"," Is %tex%in the current directory")

; check for file someplace along path
fex = FileExist("myfile.txt")
tex = StrSub("NOT", 1, StrLen("NOT") * fex)
Message("MyFile.Txt", " Is %tex% in the DOS path")
```

See Also:

DirExist, FileLocate

Returns the extension of a file.

Syntax:

FileExtension (filename)

Parameters:

(s) filename [optional path]full file name, including extension.

Returns:

(s) file extension.

This function parses the passed filename and returns the extension part of the filename.

Note: The extension must be in uppercase.

Example:

```
; prevent the user from editing a COM or EXE file
allfiles = FileItemize("*.*")
editfile = AskItemList("Select file to edit", allfiles, " ", @unsorted, @single)
ext = FileExtension(editfile)
If (ext == "COM") || (ext == "EXE")
     Message ("Sorry", "You may not edit a program file")
else
     Run("notepad.exe", editfile)
endif
```

See Also:

Dialog, FilePath, FileRoot

Fleshes out a file name with drive and path information .

Syntax:

FileFullName(partial filename)

Parameters:

(s) partial filename possibly incomplete filename - missing drive and/or path.

Returns:

(s) a complete file name.

Use this function to return the complete file name from a partial file name. Drive and path information will be added to the file name to create a full file name. If both drive and path are missing, the currently logged drive and path will be used. If only drive is missing, the currently logged drive will be used. If drive is specified without a path, then the currently logged directory on that drive will be used.

Example:

```
DirChange("C:\TEMP")
a="Test.abc"
b=FileFullName(a)
Message(a,b)
; b will equal  C:\TEMP\TEST.ABC
```

See Also:

AskFileName, ExeTypeInfo, FileMapName, FileLocate

Returns a space-delimited list of files.

Syntax:

FileItemize (file-list)

Parameters:

(s) file-list a string containing a list of filenames, which may be wildcarded.

Returns:

(s) space-delimited list of files.

This function compiles a list of filenames and separates the names with spaces.

This is especially useful in conjunction with the **AskItemList** function, which lets the user choose an item from such a space-delimited list.

Note: Some shell or file manager applications using the WIL Interpreter allow an empty string (**""**) to be used as the "file-list" parameter, in which case all files highlighted in the file display are returned. However, if there are any file names or wildcards in the string, all files matching the file names are returned, regardless of which ones are highlighted.

Note: In the 32-bit version of WIL, the "default" file delimiter used to delimit lists of files and directories, has been changed to a TAB. In the 16-bit version of WIL, the "default" delimiter has not changed, and remains a space. We have added the ability to change the file delimiter to a character of your own choosing, using IntControl 29.

Examples:

```
a = FileItemize("*.bak")              ;all BAK files
b = FileItemize("*.arc *.zip *.lzh")  ;compressed files

; Get which .INI file to edit
ifiles = FileItemize("c:\windows\*.ini")
ifile = AskItemList(".INI Files", ifiles, " ", @unsorted, @single)
RunZoom("notepad", ifile)
Drop(ifiles, ifile)
```

See Also:

CurrentFile, DirItemize, AskItemList, AskFileText, WinItemize

Finds file in current directory or along the DOS path.

Syntax:

FileLocate (filename)

Parameters:

(s) filename full file name, including extension.

Returns:

(s) fully-qualified path name.

This function is used to obtain the fully qualified path name of a file. The current directory is checked first, and if the file is not found, the DOS path is searched. The first occurrence of the file is returned.

Example:

```
; Edit WIN.INI
winini = FileLocate("win.ini")
If winini == ""
     Message("???", "WIN.INI not found")
else
     Run("notepad.exe", winini)
endif
```

See Also:

FileExist

Transforms a filename with a file wildcard mask and returns a new filename.

Syntax:

FileMapName(filename, mapping-data).

Parameters:

(s) filename	full or partial file name.
(s) mapping data	mapping and wildcard definition string (see below).

Returns:

(s) transformed file name.

Use this function to generate a new filename based on an old filename. It can be used to generate *.bak filenames easily, or to perform assorted wildcard transformations on a filename. The mapping-data consists of the normal (optional) drive, path, legal filename characters, the period, and two special wildcard characters, the asterisk (*) and the question mark (?). The following algorithm is used to transform the file name:

1) If drive is specified in the mapping-data use specified drive, else use current drive.

2) If path is specified in the mapping-data use specified path, else use current path on the drive selected above.

3) Examine root of the filename and root position of mapping-data, sequencing through the root characters together, one character at a time.

map-char	root transformation rule
.	If the mapping position character is a period, stop processing the root filename, add a period to the end of the new filename string and proceed to process the extension as outlined below.
*	If mapping data position is a asterisk, copy remainder of root file name to new filename string and proceed to process the extension as outlined below.
?	If mapping data position is a question mark, copy the current character from the root filename to the new filename string.
other	If the mapping data character is not one of the above, copy the map character to the new filename string and ignore the corresponding character in the root filename.
<none>	If there are no more characters in the mapping-data string, filename generation is complete. Return with the new string.

4) Examine extension of the filename and extension position of mapping-data, sequencing through the extension characters together, one character at a time.

map-char	extension transformation rule
*	If mapping data position is a asterisk, copy remainder of extension file name to new filename string and return.
?	If mapping data position is a question mark, copy the current character from the

extension filename to the new filename string.

other — If the mapping data character is not one of the above, copy the map character to the new filename string and ignore the corresponding character in the extension filename.

<none> — If there are no more characters in the mapping-data string, filename generation is complete. Return with the new string.

Example:

```
DirChange("C:\TEMP")
a=FileMapName("d:\sample\xxx.txt", "*.bak")
Message("New filename", a)
; This will return C:\TEMP\XXX.BAK
;
a=FileMapName("d:\sample\xxx.txt", "c:\demo\??Q.bak")
Message("New filename", a)
; This will return C:\DEMO\XXQ.BAK
```

See Also:

AskFileName, FileFullName, FileCopy, FileMove

Moves files.

Syntax:

FileMove (source-list, destination, warning)

Parameters:

(s) source-list one or more filenames separated by spaces.
(s) destination target filename.
(i) warning **@TRUE** if you want a warning before overwriting existing files; **@FALSE** if no warning desired.

Returns:

(i) **@TRUE** if the file was moved;
@FALSE if the source file was not found or had the READ-ONLY attribute, or the target filename is invalid.

Use this function to move an individual file, a group of files using wildcards, or several groups of files by separating the names with spaces.

You can move files to another drive. You can also move a file to a **COM** or **LPT** port, which would cause the file to be copied to the port and then deleted (**do not** put a colon after the name of the port).

Source-list and destination may contain ***** and **?** wildcards.

Note: In the 32-bit version of WIL, the "default" file delimiter used to delimit lists of files and directories, has been changed to a TAB. In the 16-bit version of WIL, the "default" delimiter has not changed, and remains a space. We have added the ability to change the file delimiter to a character of your own choosing, using IntControl 29.

Examples:

```
FileMove("c:\config.sys", "d:", @FALSE)

FileMove("c:\*.sys", "d:*.sys", @TRUE)
```

See Also:

FileCopy, FileDelete, FileExist, FileLocate, FileRename

Returns the long version of a filename.

Syntax:

FileNameLong(filename)

Parameters:

(s) filename fully qualified file name, path optional.

Returns:

(s) the long version of a filename.

FileNameLong searches the path for the filename specified, returning the long filename if found.

Example:

```
DirChange("C:\win95")
a=FileNameLong("carved~1.bmp")
message("Long Filename", a)
```

See Also:

FileFullName, FileNameShort

Returns the short (ie, 8.3) version of a filename.

Syntax:

FileNameShort(filename)

Parameters:

(s) filename fully qualified file name, path optional.

Returns:

(s) the short version of a filename.

FileNameShort searches the path for the filename specified, returning the short filename if found.

Example:

```
DirChange("C:\win95")
a=FileNameShort("carved stone.bmp")
message("Short Filename", a)
```

See Also:

FileFullName, FileNameLong

Opens a STANDARD ASCII / ANSI (only) file for reading, writing or appending.

Syntax:

FileOpen (filename, mode)

Parameters:

(s) filename	name of the file to open.
(s) mode	"READ", "WRITE". or "APPEND"

Returns:

(i) filehandle, or **0** on error.

The **filehandle** returned by the **FileOpen** function may be subsequently used by the **FileRead**, **FileWrite**, and **FileClose** functions. If the file cannot be opened as requested, **FileOpen** returns a filehandle of 0.

You may have a maximum of five files open at one time.

Examples:

```
; To open for reading:
handle = FileOpen("stuff.txt", "READ")

; To open for writing:
handle = FileOpen("stuff.txt", "WRITE")

; To open for appending:
handle = FileOpen("stuff.txt", "APPEND")
```

See Also:

Binary Operations, BinaryRead, BinaryWrite, FileClose, FileRead, FileWrite

Returns the path of a file.

Syntax:

FilePath (filename)

Parameters:

(s) filename fully qualified file name, including path.

Returns:

(s) fully qualified path name.

FilePath parses the passed filename and returns the drive and path of the file specification, if any.

Example:

```
coms = Environment("COMSPEC")
compath = FilePath(coms)
Message("Your command processor is located in", compath)
```

See Also:

CurrentPath, FileExtension, FileRoot

Reads data from a file.

Syntax:

FileRead (filehandle)

Parameters:

(i) filehandle same integer that was returned by **FileOpen**.

Returns:

(s) line of data read from file.

When the end of the file is reached, the string ***EOF*** will be returned.

Example:

```
handle = FileOpen("autoexec.bat", "READ")
line=""
while  line != "*EOF*"
     line = FileRead(handle)
     Display(4, "AUTOEXEC DATA", line)
endwhile
FileClose(handle)
```

See Also:

FileClose, FileOpen, FileWrite

Renames files.

Syntax:

FileRename (source-list, destination)

Parameters:

(s) source-list one or more filenames, separated by spaces.
(s) destination target filename.

Returns:

(i) **@TRUE** if the file was renamed;
@FALSE if the source file was not found or had the READ-ONLY attribute, or the target filename is invalid.

Use this function to rename an individual file, a group of files using wildcards, or several groups of files by separating the names with spaces.

Note: Unlike **FileMove**, you cannot make a file change its resident disk drive with **FileRename**.

Source-list and **destination** may contain ***** and **?** wildcards.

Note: In the 32-bit version of WIL, the "default" file delimiter used to delimit lists of files and directories, has been changed to a TAB. In the 16-bit version of WIL, the "default" delimiter has not changed, and remains a space. We have added the ability to change the file delimiter to a character of your own choosing, using IntControl 29.

Examples:

```
FileRename("c:\config.sys", "config.old")

FileRename("c:\*.txt", "*.bak")
```

See Also:

FileCopy, FileExist, FileLocate, FileMove

Returns root of file.

Syntax:

FileRoot (filename)

Parameters:

(s) filename [optional path] full file name, including extension.

Returns:

(s) file root.

FileRoot parses the passed filename and returns the root part of the filename.

Example:

```
allfiles = FileItemize("*.*")
editfile = AskItemList("Select file to edit", allfiles," ", @unsorted, @single)
root = FileRoot(editfile)
ext = FileExtension(editfile)
lowerext = StrLower(ext)
nicefile = StrCat(root, ".", lowerext)
Message("", "You are about to edit %nicefile%.")
Run("notepad.exe", editfile)
```

See Also:

FileExtension, FilePath

Finds the total size of a group of files.

Syntax:

FileSize (file-list)

Parameters:

(s) file-list zero or more filenames, separated by spaces.

Returns:

(i) total bytes taken up by the specified file(s).

This function returns the total size of the specified files.

File-list may contain ***** and **?** wildcards.

Note: In the 32-bit version of WIL, the "default" file delimiter used to delimit lists of files and directories, has been changed to a TAB. In the 16-bit version of WIL, the "default" delimiter has not changed, and remains a space. We have added the ability to change the file delimiter to a character of your own choosing, using IntControl 29.

Example:

```
size = FileSize("*.*")
Message("Size of All Files in Directory", size)
```

See Also:

DiskFree

Returns a machine readable/computable code for a file time.

Syntax:

FileTimeCode(filename)

Parameters:

(s) filename file name to get the time code from.

Returns:

(i) file time code.

Use this function to return an 32 bit integer representing the current file time stamp. This number may be compared to other file times to compare ages of files. It is basically the DOS 16 bit date and the DOS 16 bit time in a 32 bit integer. This function returns a valid, comparable time through the year 2044.

Example:

```
a=FileTimeCode("C:\AUTOEXEC.BAT")
b=FileTimeCode("C:\CONFIG.SYS")
if a == b
     ans="Same Time"
else
     if a > b
            ans = "AutoExec newer than Config"
     else
            ans = "AutoExec older than Config"
     endif
endif
Message("Comparing file times", ans)
```

See Also:

FileTimeGet, FileYmdHms

Returns file date and time in a human readable format.

Syntax:

FileTimeGet (filename)

Parameters:

(s) filename name of file for which you want the date and time.

Returns:

(s) file date and time.

This function will return the date and time of a file, in a pre-formatted string. The format of the string depends on the current settings in the [Intl] section of the WIN.INI file:

mm/dd/yy hh:mmXX
dd/mm/yy hh:mmXX
yy/mm/dd hh:mmXX

Where:

mm is the month (e.g. 10)
dd is the day of the month (e.g. 23)
yy is the year (e.g. 90)
hh is the hours
mm is the minutes
XX is the Day/Night code (e.g. AM or PM)

The WIN.INI file will be examined to determine which format to use. You can adjust the WIN.INI file via the **International** icon in **Control Panel** if the format isn't what you prefer.

Note: If you must parse the time data returned by this function, use the **ParseData** function to break the day, date, and time into separate components. However you should check the **FileYmdHms** and **FileTimeCode** functions first

Example:

```
oldtime = FileTimeGet("win.ini")
RunWait("notepad.exe", "win.ini")
newtime = FileTimeGet("win.ini")
If StrCmp(oldtime, newtime) == 0
     Message("WIN.INI not changed", "Last change was %oldtime%)
else
     Message("WIN.INI modified", "New time stamp is %newtime%")
endif
```

See Also:

FileTimeCode, TimeDate, FileAttrGet, FileTimeTouch, FileTimeSet, FileYmdHms

Sets the date and time of one or more files.

Syntax:

FileTimeSet(list, ymdhms)

Parameters:

(s) list	filename, list of files, or list of wildcards of files reset.
(s) ymdhms	date time in the YmdHms format

Returns:

(i) datetime	**@TRUE** All files specified were time stamped **@FALSE** One or more files were not time stamped.

Use this function to reset the date and time of a specific file or list of files.

Note: In the 32-bit version of WIL, the "default" file delimiter used to delimit lists of files and directories, has been changed to a TAB. In the 16-bit version of WIL, the "default" delimiter has not changed, and remains a space. We have added the ability to change the file delimiter to a character of your own choosing, using IntControl 29.

Example:

```
; Alter time of the WIN.INI file
b=FileYmdhms("C:\Windows\Win.ini")
Message("File Time is", b)
a="94:02:14:09:38:26"
;
FileTimeSet("C:\Windows\Win.ini", a)
b=FileYmdhms("C:\Windows\Win.ini")
Message("File Time is", b)
;
;Alter the time of all files in the demo directory
a=TimeYmdHms
FileTimeSet("C:\DEMO\*. *", a)
```

See Also:

GetExactTime, FileYmdHms, TimeDiffDays, TimeDiffSecs, TimeYmdHms

Sets file(s) to current date and time.

Syntax:

FileTimeTouch (file-list)

Parameters:

(s) file-list a space-delimited list of files

Returns:

(i) always 0

File-list is a space-delimited list of files, which may contain wildcards. The path is searched if the file is not found in current directory and if the directory is not specified in **file-list**.

Note: In the 32-bit version of WIL, the "default" file delimiter used to delimit lists of files and directories, has been changed to a TAB. In the 16-bit version of WIL, the "default" delimiter has not changed, and remains a space. We have added the ability to change the file delimiter to a character of your own choosing, using IntControl 29.

Example:

```
FileTimeTouch("sample.c sample.rc")
Run("make.exe", "sample.mak")
```

See Also:

FileAttrSet, FileTimeGet

Writes data to a file.

Syntax:

FileWrite (filehandle, output-data)

Parameters:

(i) filehandle	same integer that was returned by **FileOpen**.
(s) output-data	data to write to file.

Returns:

(i) always 0.

Example:

```
handle = FileOpen("stuff.txt", "WRITE")
FileWrite(handle, "Gobbledygook")
FileClose(handle)
```

See Also:

FileClose, FileOpen, FileRead

Returns a file time in the YmdHms date time format.

Syntax:

FileYmdHms(filename)

Parameters:

(s) filename filename.

Returns:

(s) file time in YmdHms format.

Use this function to retrieve a file time in the YmdHms format.

Example:

```
b=FileYMDHMS("C:\CONFIG.SYS")
Message("File Time is", b)
```

See Also:

FileTimeGet, TimeDate, TimeAdd, TimeDiffDays, TimeYmdHms, TimeDelay, TimeWait

Calculates the floor of a value.

Syntax:

Floor(x)

Parameters:

(f) *x* value **Floor** is calculated from.

Returns:

(f) a floating point number whose value represents the largest integer that is less than or equal to x.

Use this function to calculate the floor of a value.

Example:

```
; This example accepts a value from the user to calculate
; the ceiling and floor.
a=AskLine("Ceiling and Floor", "Please enter a number", "1.23")
c=Ceiling(a)
f=Floor(a)
Message("Ceiling and Floor of %a%", "Ceiling: %c%    Floor: %f%")
```

ie.

A=	Ceiling=	Floor=
25.2	26.0	25.0
25.7	26.0	25.0
24.9	25.0	24.0
-14.3	-14.0	-15.0

See Also:

Abs, Ceiling, Fabs, Min, Max

Controls the looping of a block of code based on an incrementing index.

Syntax:

For var-name **=** initial-value **to** last-value [**by** increment]

Parameters:

(s) var-name — a variable name to be used for the loop index.

(f) initial-value — an expression used to set the initial value of the loop index.

(f) last-value — an expression that defines last value to be used in the loop. When the initial value is incremented past the last value, the loop terminates.

(f) increment — an expression that defines the amount to increment the loop index on each pass through the loop. The default is one. The increment may be negative.

Use the **For** statement to execute a block of code a fixed number of times. When the **For** statement is executed, it initializes the specified variable ***var-name*** to the ***initial-value*** This variable is called the ***loop index***. It then tests the ***loop index*** with the ***last value***. If the ***increment*** is positive and the ***loop index*** is greater than the last value, or if the ***increment*** is negative and the ***loop index*** is less than the last value, then the loop terminates and control is passed to the statement after the **Next** statement.

Otherwise the statements below the **For** are executed until the **Next** statement is reached. When the **Next** statement is reached, control returns to the **For** statement so that the ***loop index*** may be incremented and the test for ***last value*** repeated.

Example:

```
; Compute sum of numbers between 1 and selected number
a=AskLine("Sums", "Please enter a number",  5)
f=0
For j = 1 to a
     f = f + j
Next
Message("Sum [ 1 to %a% ] is",  f)


;Compute factorials
a=AskLine("Factorials", "Please enter a number", 5)
f=1
For j = a to 2 by -1
     f=f*j
Next
Message("%a% Factorial is", f)
```

See Also:

Break, Continue, If, Select, Switch, While

Returns current time in hundredths of a second.

Syntax:

GetExactTime()

Parameters:

(none)

(Returns:

(s) the current time in hundredths of a second.

Use this function to obtain the current time in hundredths of seconds.

Example:

```
a=GetExactTime()
Message("Time is", a)
```

See Also:

TimeDate, TimeYmdHms, GetTickCount

Returns number of clock ticks used by Windows since Windows started.

Syntax:

GetTickCount()

Parameters:

(none)

Returns:

(s) The number of clock ticks.

Use this function to obtain the number of clock ticks since Windows started.

Example:

```
a=GetTickCount()
Message("Clock Ticks", a)
```

See Also:

TimeDate, GetExactTime, TimeYmdHms

Transfers control to another point in a WIL program and saves the location of the next statement.

Syntax:

GoSub *label*

Parameters:

(s) *label* user-defined identifier

GoSub *label* causes an unconditional transfer of control to the line in the program marked *:label* where the identifier is preceded by a colon (:). The location of the next statement after the **GoSub** statement is retained, and control may be transferred back to that statement with a **Return** statement.

Example:

```
a=1
b=2
c=3
x=21
GoSub Poly
Message("Polynomial evaluates to", y)
a=3
b=4
c=6
x=45
GoSub Poly
Message("Polynomial evaluates to", y)
exit

; Polynomial Computation Subroutine here
:Poly
y = a*(x**2) + b*x + c
return
```

See Also:

For, Goto, Return, Switch, Select, While

Changes the flow of control in a WIL program.

Syntax:

Goto *label*

Parameters:

(s) *label* user-defined identifier.

Goto *label* causes an unconditional branch to the line in the program marked *:label*, where the identifier is preceded by a colon (**:**).

Note: Program flow control structures, such as **For**/**Next**, **While**/**EndWhile**, **Switch**/**EndSwitch**, **If**/**EndIf** must not be "jumped" by a **Goto** statement. If a **Goto** is used inside of one of these structures to send the flow of control outside of the structure, or if a **Goto** is used to send the flow of control inside a structure, errors will result.

Example:

```
If WinExist("Solitaire") == @FALSE Then Goto open
WinActivate("Solitaire")
Goto loaded
:open
Run("sol.exe", "")
:loaded
```

See Also:

For, If, Switch, While

Rearranges icons.

Syntax:

IconArrange ( )

Parameters:

(none)

Returns:

(i) always 0.

This function rearranges the icons at the bottom of the screen, spacing them evenly. It does not change the order in which the icons appear.

Example:

```
IconArrange ( )
```

See Also:

RunIcon, WinArrange, WinIconize, WinPlaceSet

Replaces an existing icon with a new icon.

Syntax:

IconReplace(filename, iconfilename)

Parameters:

(s) filename — either a fully qualified filename with drive and path, or just a filename and extension.

(s) iconfilename — the filename of the icon.

Returns:

(i) **@TRUE** or **@FALSE**

Use this function to replace icons. **IconReplace** will perform surgery on an EXE file and replace the first icon in the ICO file. The icon in the ICO file must be the same size or smaller than the icon in the EXE file. It is suggested that due caution be used when using this command, keeping the following points in mind:

1) The EXE file might become damaged and be unable to run. This is especially true of some programs that checksum themselves to verify the EXE. **KEEP BACKUPS.**
2) System anti-virus tools might detect the alteration of an EXE file and complain. If this is true, then either the anti-virus program must be disabled, or another work around must be used. Some Anti-virus programs allow the specification of a "trusted" program - the trusted feature may be used with due caution.
3) The application whose icon is being modified must not be running while its EXE file is being modified.

Example:

```
IconReplace("FILENAME.EXE", "ICONFILE.ICO")
```

See Also:

<none>

Conditionally performs a function or series of statements.

Syntax:

Note: There are several forms of the **if** statement**:**

if ... endif (structured)**:**

if expression
series
of
statements
endif

if ... else ... endif (structured)**:**

if expression
series
of
statements
else
series
of
statements
endif

if ... then (single statement)**:**

if expression **then** statement

if ... then ... else ... (single statement)**:**

if expression **then** statement
else statement

Parameters:

(s) expression	a condition to be evaluated.
(s) statement	any valid WIL function or command.
(s) *series of statements*	

The **if** statement evaluates the expression following it. The expression must evaluate to an integer.

In the structured forms of the **if** syntax, if the expression evaluates to a non zero value (@TRUE) the series of statements after the **if** statement up to the first matching **else** or **endif** are executed, otherwise they are skipped. In the **if ... else ... endif** syntax, the series of statements after the **else** are executed if the result of evaluating the expression is zero (@FALSE).

In the single statement forms of the **if** syntax, if the expression evaluates to a non zero value (@TRUE) the statement following the **then** keyword is executed, otherwise it is skipped. In the **if ... then ... else ...** syntax, the statement following the **else** is executed if the result of evaluating the expression is zero (@FALSE).

Example:

```
; This example guesses a # between 1 and 1023.
Message("Think of a number", "Any number between 0 and 1023")
start = 0
stop = 1023
for i = 1 to 10
  guess = (start+stop+1) /2
  if AskYesNo("Hmmmm", "Is your number smaller than %guess%")
     stop = guess - 1
  else
     start = guess
  endif
next
guess = (start+stop+1) /2
;
;

if guess==0 || guess==1023
  Message("Hmmm", "%guess% eh?  Testing the limits again I assume")
else
  if guess==13
     Message("Hmmm",  "%guess% seems rather unlucky to me")
  else
     a = guess mod 2
     if a==0 then Message("Hmmm", "Even I can figure %guess%")
             else Message("Hmmm", "It must be %guess%", oddly
                                  enough")
  endif
endif
```

See Also:

For, Select, Switch, While

Turns off hardware input to Windows.

Syntax:

IgnoreInput (mode)

Parameters:

(i) mode **@TRUE** or **@FALSE**.

Returns:

(i) previous IgnoreInput mode.

IgnoreInput causes mouse movements, clicks and keyboard entry to be completely ignored.

Note 1: Keystokes sent via **SendKey** functions are also ignored.

Note 2: This function is not supported in the 32 bit version.

Warning: If you are not careful with the use of **IgnoreInput**, you can easily lock up your computer!

Example:

```
username = AskLine("Hello", "Please enter your name","")
IgnoreInput(@TRUE)
Call("demo.wbt", username)
IgnoreInput(@FALSE)
```

See Also:

WaitForKey

Removes a line or section from WIN.INI.

Syntax:

IniDelete (section, keyname)

Parameters:

(s) section	the major heading under which the item is located.
(s) keyname	the name of the item to delete.

Returns:

(i) always 0

This function will remove the specified line from the specified section in WIN.INI. You can remove an entire section, instead of just a single line, by specifying a keyword of **@WHOLESECTION**. Case is not significant in section or keyname.

Examples:

```
IniDelete("Desktop", "Wallpaper")

IniDelete("Quicken", @WHOLESECTION)
```

See Also:

IniDeletePvt, IniItemize, IniRead, IniWrite

Removes a line or section from a private INI file.

Syntax:

IniDeletePvt (section, keyname, filename)

Parameters:

(s) section	the major heading under which the item is located.
(s) keyname	the name of the item to delete.
(s) filename	name of the INI file.

Returns:

(i) always 0.

This function will remove the specified line from the specified section in a private INI file. You can remove an entire section, instead of just a single line, by specifying a keyword of **@WHOLESECTION**. Case is not significant in section or keyname.

Example:

```
IniDeletePvt("Current Users", "Excel", "meter.ini")
```

See Also:

IniDelete, IniItemizePvt, IniReadPvt, IniWritePvt

Lists keywords or sections in WIN.INI.

Syntax:

IniItemize (section)

Parameters:

(s) section the major heading to itemize.

Returns:

(s) list of keywords or sections.

IniItemize will scan the specified section in WIN.INI, and return a tab-delimited list of all keyword names contained within that section. If a null string ("") is given as the section name, **IniItemize** will return a list of all section names contained within WIN.INI. It returns the string "**(NONE)**" if the specified section does not exist, and returns a null string (**""**) if the section exists but is empty. Case is not significant in section names.

Examples:

```
; Returns all keywords in the [Extensions] section
keywords = IniItemize("Extensions")

; Returns all sections in the entire WIN.INI file
sections = IniItemize("")
```

See Also:

IniDelete, IniItemizePvt, IniRead, IniWrite

Lists keywords or sections in a private INI file.

Syntax:

IniItemizePvt (section, filename)

Parameters:

(s) section	the major heading to itemize.
(s) filename	name of the INI file.

Returns:

(s) list of keywords or sections.

IniItemizePvt will scan the specified section in a private INI file, and return a tab-delimited list of all keyword names contained within that section. If a null string ("") is given as the section name, **IniItemizePvt** will return a list of all section names contained within the file. It returns the string "**(NONE)**" if the specified section does not exist, and returns a null string ("**""**) if the section exists but is empty. Case is not significant in section names.

Example:

```
; Returns all keywords in the [Boot] section of SYSTEM.INI
keywords = IniItemizePvt("Boot", "system.ini")
```

See Also:

IniDeletePvt, IniItemize, IniReadPvt, IniWritePvt

Reads data from the WIN.INI file.

Syntax:

IniRead (section, keyname, default)

Parameters:

(s) section	the major heading to read the data from.
(s) keyname	the name of the item to read.
(s) default	string to return if the desired item is not found.

Returns:

(s) data from WIN.INI file.

This function allows a program to read data from the WIN.INI file.

The WIN.INI file has the form:

[section**]**
keyname**=**settings

Most of the entries in WIN.INI are set from the Windows **Control Panel** program, but individual applications can also use it to store option settings in their own sections.

Example:

```
; Find the default output device
a = IniRead("windows", "device", "No Default")
Message("Default Output Device", a)
```

See Also:

Environment, IniDelete, IniItemize, IniReadPvt, IniWrite

Reads data from a private INI file.

Syntax:

IniReadPvt (section, keyname, default, filename)

Parameters:

(s) section	the major heading to read the data from.
(s) keyname	the name of the item to read.
(s) default	string to return if the desired item is not found.
(s) filename	name of the INI file.

Returns:

(s) data from the INI file.

Looks up a value in the "filename" .INI file. If the value is not found, the "default" will be returned.

Example:

```
IniReadPvt("Main", "Lang", "English", "WB.INI")
```

Given the following segment from WB.INI:

```
[Main]
Lang=French
```

The statement above would return:

French

See Also:

Environment, IniDeletePvt, IniItemizePvt, IniRead, IniWritePvt

Writes data to the WIN.INI file.

Syntax:

IniWrite (section, keyname, data)

Parameters:

(s) section	major heading to write the data to.
(s) keyname	name of the data item to write.
(s) data	string to write to the WIN.INI file.

Returns:

(i) always 1.

This command allows a program to write data to the WIN.INI file. The "section" is added to the file if it doesn't already exist.

Example:

```
; Change the list of pgms to load upon Windows
; startup
loadprogs = IniRead("windows", "load", "")
newprogs = AskLine("Add Pgm To LOAD= Line", "Add:", loadprogs)
IniWrite("windows", "load", newprogs)
```

See Also:

IniDelete, IniItemize, IniRead, IniWritePvt

Writes data to a private INI file.

Syntax:

IniWritePvt (section, keyname, data, filename)

Parameters:

(s) section	major heading to write the data to.
(s) keyname	name of the data item to write.
(s) data	string to write to the INI file.
(s) filename	name of the INI file.

Returns:

(i) always 1.

Writes a value in the "filename" .INI file.

Note: You cannot use this function to add or update any of the "Device=" entries in the [386Enh] section of SYSTEM.INI, because that section contains multiple entries with the same keyword. See **BinaryPokeStr** for an example on how to modify the device= lines of the SYSTEM.INI file.

Example:

```
IniWritePvt("Main", "Lang", "French, "MYFILE.INI")
```

This would create the following entry in MYFILE.INI:

```
[Main]
Lang=French
```

See Also:

Binary Operations, BinaryPokeStr, IniDeletePvt, IniItemizePvt, IniReadPvt, IniWrite

Installs a file.

Syntax:

InstallFile(filename, targname, default-targdir, delete-old, flags)

Parameters:

(s) filename	source file to be installed. (path optional)
(s) targname	the name of the target file to be created. (without path)
(s) default-targdir	directory where the file is to be installed.
(i) delete-old	**@TRUE** - to delete existing same name files. **@FALSE** - to ignore existing same name files.
(i) flags	1 - shared file 2 - force install

Returns:

(s)	"result|tempname", or "result|"

When installing image files (EXE's, DLL's, etc.), this function uses the version information embedded in the files to determine whether a file being installed is newer than an existing file with the same name. When installing any other type of file, which does not contain appropriate version information, this function uses the time stamps of the respective files instead.

The return value is in the form:

"result|tempname", or

"result|"

where "result" is the value returned by the "VerInstallFile" Windows API function; and "tempname" is the name of the temporary file that was created if the file could not be installed, or blank otherwise.

"Default-targdir" is the directory where you want the file to be installed. The file will be installed to this directory, unless it is a shared file or a file with the same name already exists elsewhere.

If "Delete-old" is **@TRUE** (or non-zero), and a file with the same name as the file being installed already exists, it will be deleted, even if it is located in a directory (on the path) other than the target directory. If "delete-old" is **@FALSE**, such a file will not be deleted.

"Flags" specifies other optional flags that affect the operation of this function, combined with the OR ('|') operator. They are:

1 - shared file (file should be installed to a shared directory)

2 - force install (install file even if older than existing file)

Note: The image version can only be interpreted by a corresponding platform version, ie. 32-bit images by a 32-bit platform.

Example:

```
InstallFile("a:\ctl3d.dl_", "ctl3d.dll", DirWindows(1), @TRUE, 1)
```

See Also:

FileCopy, RegApp

Converts a floating point number or a string to an integer.

Syntax:

Int(x)

Parameters:

(s) *x* value to be converted.

Returns:

(i) an integer.

Use this function to convert a floating point number or a string to an integer. If the argument is a string, it is first converted to a number- if possible. If the argument is a number within integer range, it will be converted to the closest integer.

Example:

```
a=int(5.1)  +  int("123")
Message("Result is", a)
; a= 5+123 = 128
```

See Also:

IsInt, IsFloat, IsNumber

Internal control functions.

Syntax:

IntControl (request#, p1, p2, p3, p4)

Parameters:

(i) request# specifies which sub-function is to be performed (see below).
(s) p1 - p4 parameters which may be required by the function (see below).

Returns:

(s) varies (see below).

Short for Internal Control, a special function that permits numerous internal operations in the various products. The first parameter of IntControl defines exactly what the function does, the other parameters are possible arguments to the function.

Refer to your product documentation for any further information on this function.

Warning: Many of these operations are useful only under special circumstances, and/or by technically knowledgeable users. Some could lead to adverse side effects. If it isn't clear to you what a particular function does, don't use it.

IntControl (1, **p1**, **p2**, **p3**, **p4**)

Just a test **IntControl**. It echoes back P1 & P2 and P3 & P4 in a pair of message boxes.

IntControl (4, **p1**, 0, 0, 0)

Controls whether or not a dialog box with a file-list box in it has to return a file name, or may return merely a directory name or nothing.

P1	Meaning
0	May return nothing, or just a directory name
1	Must return a file name (default)

IntControl (5, **p1**, 0, 0, 0)

Controls whether system & hidden files are seen and processed.

P1	Meaning
0	System & Hidden files not used (default)
1	System & Hidden files seen and used

IntControl (12, p1, p2, 0, 0)

IntControl 12 is used to direct WIL and it's parent application (if the parent application supports this function) as to how to handle users either terminating WinBatch via the "Ctrl-Break" keystroke sequence or perhaps a menu item, or by simply exiting windows.

P1 codes: Add desired code in each group together.

Exit Windows group codes (choose one).

P1	Meaning
0	Pop up message box giving user a chance to either cancel bat file or continue.
1	Allow Windows to be exited with no warning.
2	Refuse any attempt to exit Windows. If P2 is not "" and not 0, display p2 in a message box. E.G. **IntControl**(12,2,"Attention! Close all apps first",0,0)
3	Reserved

Terminate Group (chose one).

Used to direct WIL to allow itself to be terminated without warning or to simply refuse any termination request (such as Ctrl-Break).

P1 Meaning

0 - Provide notification message when program terminated by user.

4 - Allow quiet termination.

8 - Refuse to terminate.

P2 Codes: When a "2" is included in the P1 code, P2 provides the message to display to the user. Use "" or "0" to clear any previously-set exit message.

Example:

```
; We want to refuse termination requests and refuse any attempt to
; exit Windows until the WIL script is complete
;Add codes 2 and 8   making 10
IntControl(12,10,"Close Net apps before exiting Windows", 0, 0 )
```

IntControl (20, 0, 0, 0, 0)

Returns window handle of current parent window. (Similar to **DllHwnd**)

IntControl (21, **p1**, 0, 0, 0)

Returns window handle of window matching the partial window-name in p1.

IntControl (22, **p1**, **p2**, **p3**, **p4**)

Issues a Windows "SendMessage".

- p1 Window handle to send to
- p2 Message ID number (in decimal)
- p3 wParam value
- p4 assumed to be a character string. String is copied to a GMEM_LOWER buffer, and a LPSTR to the copied string is passed as lParam. The GMEM_LOWER buffer is freed immediately upon return from the SendMessage

IntControl (23, **p1**, **p2**, **p3**, **p4**)

Issues a Windows "PostMessage"

- p1 Window handle
- p2 Message ID number (in decimal)
- p3 wParam
- p4 lParam assumed to be numeric

IntControl (26, 0, 0, 0, 0)

Re-assesses the language currently being used and makes any necessary changes to the language strings used by the WIL Interpreter. Normally, this is done at program startup.

IntControl (28, **p1**, 0, 0, 0)

Selects system font used in list boxes.

P1	Meaning
0	proportional font (default)
1	fixed pitch font

Returns the current font type (0 or 1, as above)

IntControl(29, **p1**, 0, 0, 0)

Changes the default file delimiter.

p1	New delimiter

We have added the ability to change the file delimiter to a character of your own choosing, using the new IntControl 29. If you are using the 32-bit version of WIL, and want to make the file delimiter a space for compatibility with existing scripts, you can place the following line at the beginning of each of your scripts:

```
IntControl(29, " ", 0, 0, 0)
```

Conversely, if you want to standardize on a TAB delimiter, you can use:

```
IntControl(29, @TAB, 0, 0, 0)
```

The first parameter for IntControl is the new file delimiter you want to use, and must be a single character. The return value of the function is the previous file delimiter character. If you specify an empty string ("") as the first parameter, the function will return the current file delimiter character but the file delimiter will not be changed.

IntControl(30, p1, p2, 0, 0) {*NT}

Performs a delayed file move.

p1	source file
p2	destination

The file is not actually moved until the operating system is restarted. This can be useful for replacing system files. "Sourcefile" must be a single file name, with no wildcards. "Destination" may be a file name (which may contain wildcards) or a directory name. The destination file MUST be on the same drive as the source file. If the destination file exists, it will be replaced without warning. "Destination" can also be a NULL string (""), in which case the source file will be deleted when the operating system is restarted.

Under Windows 95, and in the 16-bit version, this function performs a regular (non-delayed) FileMove.

This function returns "1" on success, "2" if it performed a regular FileMove instead, and "0" on failure.

IntControl(31, 0, 0, 0, 0) {*95}

Returns "Window ID's" for all Explorer windows.

This function returns a tab-delimited list of Window ID's for all open Windows 95 Explorer windows.

IntControl(32, address, "data type", 0, 0)

Returns the contents of the memory location specified by "address".

"Data type" specifies the type of data to be retrieved:

"BYTE" - returns a byte

"WORD" - returns a word

"LONG" - returns a long integer

IntControl(33, **p1**, 0, 0, 0)

Controls whether a listbox control in a dialog box allows multiple items to be selected.

P1	Meaning
0	Single selection
1	Multiple selection (default)

IntControl(34, **p1**, 0, 0, 0)

Returns the error message string which corresponds to the specified WIL error.

p1 error number.

IntControl(35, **p1**, 0, 0, 0)

Slows down SendKey.

p1 amount of time to delay between each keypress, in milliseconds (1000 milliseconds = 1 second);
0 = no delay (default).

Returns previous delay setting.

IntControl(36, **p1, p2**, 0, 0) (32-bit version only)

Waits until an application is waiting for user input.

p1 = window name associated with application

p2 = time-out, in milliseconds (-1 = no time-out)

This function waits until the process which created the specified window has finished its initialization and is waiting for user input with no input pending, or until the specified time-out interval has elapsed. It can only be used with 32-bit GUI applications. It returns @TRUE if it has successfully waited, or FALSE if a time-out has occurred (or if it was unable to initiate a wait).

IntControl (66, 0, 0, 0, 0)

In Windows, thus function restarts Windows, just like exiting to DOS and typing WIN again. Could be used to restart Windows after editing the SYSTEM.INI file to change video modes.

In 32 bit versions, this function logs the user out of the current session

IntControl (67, 0, 0, 0, 0)

Performs a warm boot of the system, just like <Ctrl-Alt-Del>. Could be used to reboot the system after editing the AUTOEXEC.BAT or CONFIG.SYS files.

In 32 bit versions will cause of reboot of Windows NT machines.

-

IntControl (68, 0, 0, 0, 0)

Performs a warm boot of the system, just like <Ctrl-Alt-Del>. Could be used to reboot the system after editing the AUTOEXEC.BAT or CONFIG.SYS files.

In 32 bit versions will cause a shutdown of the machine, awaiting power off.

Determines if a variable name is currently defined.

Syntax:

IsDefined (var)

Parameters:

(s) var a variable name.

Returns:

(i) **@YES** if the variable is currently defined;
@NO if it was never defined or has been dropped.

A variable is defined the first time it appears to the left of an equal sign in a statement. It stays defined until it is explicitly dropped with the **Drop** function, or until the current invocation of the WIL Interpreter gets closed.

Generally speaking: in batch file-based implementations of WIL, all variables are dropped automatically at the end of every batch file; and in menu-based implementations of WIL, variables stay defined until explicitly dropped.

Example:

```
if IsDefined(thisvar)
     Message("Value of thisvar is", thisvar)
else
     Message("ERROR!", "Variable not defined")
endif
```

See Also:

Drop

Tests whether a number can be converted to a floating point number.

Syntax:

IsFloat(x)

Parameters:

(s) *x* value to be tested.

Returns:

(i) **@TRUE** if the data can be converted to a floating point number;
@FALSE if the data cannot be converted to a floating point number.

Use this function to test whether a number can be converted into a floating point number.

Example:

```
A=IsFloat(4)
Message("Is 4 a floating point number", A)
B=IsFloat("Hamburger")
Message(Is "Hamburger" a floating point number, B)
C=IsFloat(4.5)
Message("Is 4.5 a floating point number", C)
```

See Also:

IsInt, IsNumber

Tests whether a number is or can be converted into a valid integer.

Syntax:

IsInt(*x*)

Parameters:

(s) *x* value to be tested.

Returns:

(i) **@TRUE** if the data is or can be converted to a valid integer;
@FALSE if the data is not or cannot be converted to a valid integer.

Use this function to test whether a number can be converted into a valid integer.

Example:

```
A=IsInt(4)
Message("Is 4 an integer", A)
B=IsInt("Hamburger")
Message(Is "Hamburger" an integer, B)
C=IsInt(4.5)
Message("Is 4.5 an integer", C)
```

See Also:

IsFloat, IsNumber

Tells about keys/mouse.

Syntax:

IsKeyDown(keycodes)

Parameters:

(i) keycodes **@SHIFT** and/or **@CTRL**.

Returns:

(i) **@YES** if the key is down;
@NO if the key is not down.

Determines if the Shift key or the Ctrl key is currently down.

Note: The right mouse button is the same as Shift, and the middle mouse button is the same as Ctrl.

Examples:

```
IsKeyDown(@SHIFT)

IsKeyDown(@CTRL)

IsKeyDown(@CTRL | @SHIFT)

IsKeyDown(@CTRL & @SHIFT)
```

See Also:

WaitForKey

Tells if the calling application is licensed.

Syntax:

IsLicensed ( )

Parameters:

(none)

Returns:

(i) **@YES** if it is licensed;
@NO if it is not licensed.

Returns information on whether or not the currently-running version of the calling application is a licensed copy.

Example:

```
IsLicensed()
```

See Also:

Version, VersionDLL

Determines if a menu item has a checkmark next to it.

Syntax:

IsMenuChecked (menuname)

Parameters:

(s) menuname name of the menu item to test.

Returns:

(i) **@YES** if the menu item has a checkmark;
@NO if it doesn't.

You can place a checkmark next to a menu item with the **MenuChange** command, to indicate an option has been enabled. This function lets you determine if the menu item has already been checked or not.

Note: This command is not part of the WIL Interpreter package, but is documented here because it has been implemented in many of the shell or file manager-type applications which use the WIL Interpreter.

Example:

```
; assume we've defined a "Misc | Prompt Often" menu item
prompt = IsMenuChecked("MiscPromptOften")
if prompt==@TRUE
     confirmed = AskYesNo("Delete backups???", "REALLY do this?")
else
     confirmed = @YES
endif
if confirmed ==@ YES
     ; some risky operation the user has just confirmed
     FileDelete("C:\temp\backup\*.*")
endif
```

See Also:

IsMenuEnabled, MenuChange

Determines if a menu item has been enabled.

Syntax:

IsMenuEnabled (menuname)

Parameters:

(s) menuname name of the menu item to test.

Returns:

(i) **@YES** if the menu item is enabled;
@NO if it is disabled & grayed.

You can disable a menu item with the **MenuChange** command if you want to prevent the user from choosing it. It shows up on the screen as a grayed item. **IsMenuEnabled** lets you determine if the menu item is currently enabled or not.

Note: This command is not part of the WIL Interpreter package, but is documented here because it has been implemented in many of the shell or file manager-type applications which use the WIL Interpreter.

Example:

```
; allow editing of autoexec.bat file only if choice enabled
Terminate(!IsMenuEnabled("UtilitiesEditBatFile"), "", "")
Run("notepad.exe", "c:\autoexec.bat")
```

See Also:

IsMenuChecked, MenuChange

Tests whether a value is or can be converted into a valid number.

Syntax:

IsNumber(x)

Parameters:

(s) *x* value to be tested

Returns:

(i) **@TRUE** if the data is or can be converted to a valid number;
@FALSE if the data is not or cannot be converted to a valid number.

Use this function to test whether a value can be converted into a valid number, either an integer or a floating point number.

Example:

```
A=IsNumber(4)
Message("Is 4 a number",  A)
B=IsNumber("Hamburger")
Message('Is "Hamburger" a number', B)
C=IsNumber(4.5)
Message("Is 4.5 a number", C)
```

See Also:

IsFloat, IsInt,

Returns the number of items in a list.

Syntax:

ItemCount (list, delimiter)

Parameters:

(s) list	a string containing a list of items.
(s) delimiter	a character to act as a delimiter between items in the list.

Returns:

(i) the number of items in the list.

If you create the list with the **FileItemize** or **DirItemize** functions you will be using a space-delimited list. **WinItemize**, however, creates a tab-delimited list of window titles since titles can have embedded spaces.

Example:

```
a = FileItemize("*.*")
n = ItemCount(a, " ")
Message("Note", "There are %n% files")
```

See Also:

ItemExtract, AskItemList

Returns the selected item from a list.

Syntax:

ItemExtract (index, list, delimiter)

Parameters:

(i) index	the position in **list** of the item to be selected.
(s) list	a string containing a list of items.
(s) delimiter	a character to act as a delimiter between items in the list.

Returns:

(s) the selected item.

If you create the list with the **FileItemize** or **DirItemize** functions you will be using a space-delimited list. **WinItemize**, however, creates a tab-delimited list of window titles since titles can have embedded blanks.

Example:

```
bmpfiles = FileItemize("*.bmp")
bmpcount = ItemCount(bmpfiles, " ")
pos = (Random(bmpcount - 1)) + 1
paper = ItemExtract(pos, bmpfiles, " ")
Wallpaper(paper, @FALSE)
```

See Also:

ItemCount, ItemLocate, AskItemList, ItemSort

Adds an item to a list.

Syntax:

ItemInsert (item, index, list, delimiter)

Parameters:

(s) item	a new item to add to **list**.
(i) index	the position in **list** after which the item will be inserted.
(s) list	a string containing a list of items.
(s) delimiter	a character to act as a delimiter between items in the list.

Returns:

(s) new list, with **item** inserted.

This function inserts a new item into an existing list, at the position following **index**. It returns a new list, with the specified item inserted; the original list (**list**) is unchanged. For example, specifying an index of 1 causes the new item to be inserted after the first item in the list; i.e., the new item becomes the second item in the list.

You can specify an index of **0** to add the item to the beginning of the list, and an index of **-1** to append the item to the end of the list.

If you create the list with the **FileItemize** or **DirItemize** functions you will be using a space-delimited list. **WinItemize**, however, creates a tab-delimited list of window titles since titles can have embedded blanks.

Example:

```
item="five"
list="one two three four"
newlist = ItemInsert(item, -1, list, " ")
message("List after ItemInsert", newlist)
```

See Also:

ItemCount, ItemRemove

Returns the position of an item in a list.

Syntax:

ItemLocate (item, list, delimiter)

Parameters:

(s) item	item to search for in **list**.
(s) list	a string containing a list of items.
(s) delimiter	a character to act as a delimiter between items in the list.

Returns:

(i) position in **list** of **item**, or **0** if no match found.

This function finds the first occurrence of **item** in the specified list, and returns the position of the item (the first item in a list has a position of 1). If the item is not found, the function will return a **0**.

If you create the list with the **FileItemize** or **DirItemize** functions you will be using a space-delimited list. **WinItemize**, however, creates a tab-delimited list of window titles since titles can have embedded blanks.

Example:

```
list="one two three four "
index=ItemLocate("three", list, " ")
message("The item is located at index #", index)
```

See Also:

ItemExtract, ItemRemove

Removes an item from a list.

Syntax:

ItemRemove (index, list, delimiter)

Parameters:

(i) index	the position in **list** of the item to be removed.
(s) list	a string containing a list of items.
(s) delimiter	a character to act as a delimiter between items in the list.

Returns:

(s) new list, with **item** removed.

This function removes the item at the position specified by **index** from a list. The delimiter following the item is removed as well. It returns a new list, with the specified item removed; the original list (**list**) is unchanged.

If you create the list with the **FileItemize** or **DirItemize** functions you will be using a space-delimited list. **WinItemize**, however, creates a tab-delimited list of window titles since titles can have embedded spaces.

Example:

```
list="one two three four "
index=ItemLocate("three", list, " ")
newlist = ItemRemove(index, list, " ")
message("List after item is removed", newlist)
```

See Also:

ItemCount, ItemInsert, ItemLocate

Allows the user to choose an item from a list box.

Note: This function has been replaced by **AskItemList**, but will still work in this version for compatibility reasons. See **AskItemList**.

Syntax:

ItemSelect (title, list, delimiter)

Parameters:

(s) title	the title of the dialog box to display.
(s) list	a string containing a list of items.
(s) delimiter	a character to act as a delimiter between items in the list.

Returns:

(s) the selected item.

This function displays a dialog box with a list box inside. This list box is filled with a sorted list of items taken from a string you provide to the function.

Each item in the string must be separated ("delimited") by a character, which you also pass to the function.

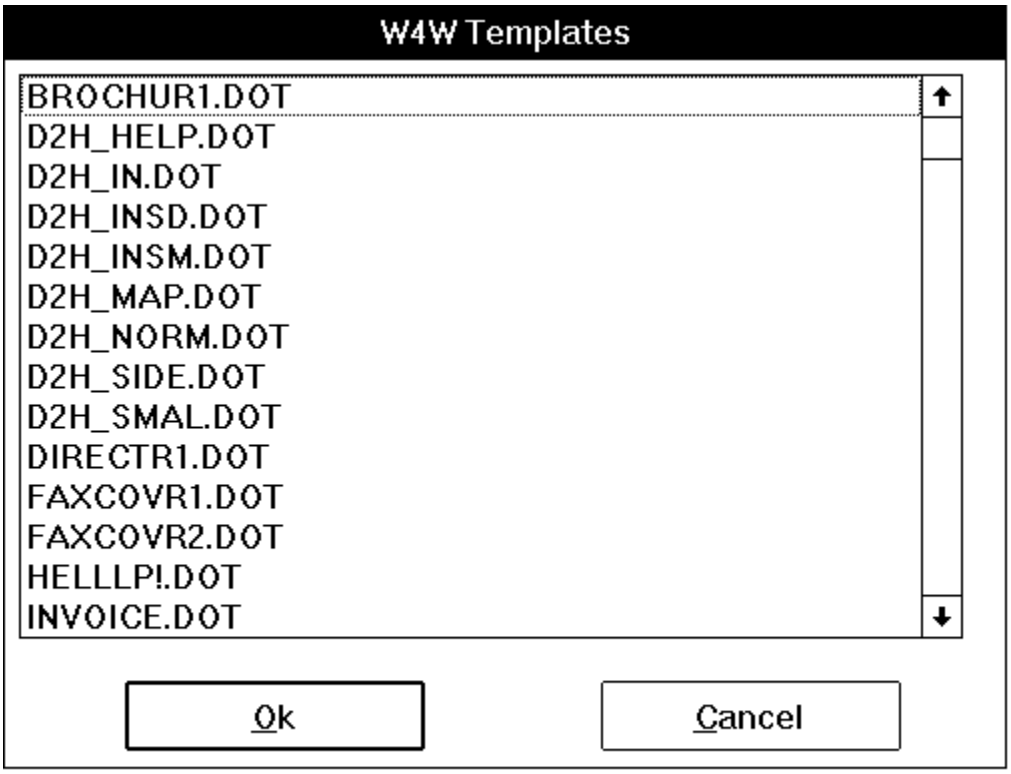
The user selects one of the items by either double-clicking on it, or single-clicking and pressing OK. The item is returned as a string.

If you create the list with the **FileItemize** or **DirItemize** functions you will be using a space-delimited list. **WinItemize**, however, creates a tab-delimited list of window titles since titles can have embedded spaces.

Example:

```
DirChange("c:\winword")
alldotfiles = FileItemize("*.dot")
dotfile = ItemSelect("W4W Templates", alldotfiles, " ")
Run("winword.exe", dotfile)
```

Which would produce:



See Also:

AskYesNo, AskItemList, AskFileText, Dialog, DirItemize, Display, FileItemize, ItemCount, ItemExtract, Message, Pause, WinItemize

Sorts a list.

Syntax:

ItemSort (list, delimiter)

Parameters:

(s) list	a string containing a list of items.
(s) delimiter	a character to act as a delimiter between items in the list.

Returns:

(s) new, sorted list.

This function sorts a list, using an ANSI sort sequence. It returns a new, sorted list; the original list is unchanged.

If you create the list with the **FileItemize** or **DirItemize** functions you will be using a space-delimited list. **WinItemize**, however, creates a tab-delimited list of window titles since titles can have embedded spaces.

Example:

```
list=" one two three four "
newlist = ItemSort(list, " ")
message("List generated by ItemSort", newlist)
```

See Also:

ItemExtract

Returns the status of a toggle key.

Syntax:

KeyToggleGet(@key)

Parameters:

(i) @key	the toggle key in question. Values may be one of:	
	@CAPSLOCK	for the CapsLock key
	@NUMLOCK	for the NumLock key
	@SCROLLLOCK	for the ScrollLock key

Returns:

(i)	**@ON**	Key was set.
	@OFF	Key was not set.

Use this function to obtain the state of one of the toggle keys - the CapsLock, NumLock, and ScrollLock keys.

Note: On DOS based systems, this function will return the keys state for all applications. For 32 bit Windows based systems, the return value will reflect the key state of the application issuing the **KeyToggleGet**.

Example:

```
a1=KeyToggleGet(@NUMLOCK)
a2=KeyToggleGet(@CAPSLOCK)
a3=KeyToggleGet(@SCROLLLOCK)
b= strcat(a1,"   ",a2,"   ",a3)
Message("NumLock   CapsLock   ScrollLock", b)
```

See Also:

KeyToggleSet, SendKey

Sets the state of a toggle key and returns the previous value.

Syntax:

KeyToggleSet(@key, value)

Parameters:

(i) @key — the toggle key in question. Values may be one of:

@CAPSLOCK	for the CapsLock key
@NUMLOCK	for the NumLock key
@SCROLLLOCK	for the ScrollLock key

(i) value — The new value of the toggle key.

@OFF	for the unset state
@ON	for the set state

Returns:

(i) Previous toggle state of the key It may be:

@ON	Key was set
@OFF	Key was not set

Use this function to alter the state of one of the toggle keys - the CapsLock, NumLock, and ScrollLock keys.

Note: On DOS based systems, this function will alter the keys state for all applications. For 32 bit Windows based systems, only the application issuing the **KeyToggleSet** command will be affected.

Example:

```
KeyToggleSet(@NUMLOCK, @ON)
KeyToggleSet(@CAPSLOCK, @ON)
KeyToggleSet(@SCROLLLOCK, @ON)
```

See Also:

KeyToggleGet, SendKey

yesTRUEC&opy&Printnono&AboutyesyesyesyesWIL L-Z Jump File WILLZyes24/10/95

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Help file produced by **HELLLP!** v2.3a , a product of Guy Software, on 10/24/95 for WILSON WINDOWWARE, INC..

The above table of contents will be automatically completed and will also provide an excellent cross-reference for context strings and topic titles. You may leave it as your main table of contents for your help file, or you may create your own and cause it to be displayed instead by using the I button on the toolbar. This page will not be displayed as a topic. It is given a context string of _._ and a HelpContextID property of 32517, but these are not presented for jump selection.

HINT: If you do not wish some of your topics to appear in the table of contents as displayed to your users (you may want them ONLY as PopUps), move the lines with their titles and contexts to below this point. If you do this remember to move the whole line, not part. As an alternative, you may wish to set up your own table of contents, see Help under The Structure of a Help File.

Do not delete any codes in the area above the Table of Contents title, they are used internally by HELLLP!

Returns the most-recent error encountered during the current WIL program.

Syntax:

LastError ( )

Parameters:

(none)

Returns:

(i) most-recent WIL error code encountered.

WIL errors are numbered according to their severity. "Minor" errors go from 1000 through 1999. Moderate errors are 2000 through 2999. Fatal errors are numbered 3000 to 3999.

Depending on which error mode is active when an error occurs, you may not get a chance to check the error code. See ErrorMode for a discussion of default error handling.

Don't bother checking for "fatal" error codes. When a fatal error occurs, the WIL program is canceled before the next WIL statement gets to execute (regardless of which error mode is active).

Every time the **LastError** function is called, the "last error" indicator is reset to zero.
A full listing of possible errors you can encounter in processing a WIL program is in **Appendix B**.
Of course, if you use the **LastError** function to trap errors, then extensive script testing -- including all error conditions -- is highly recommended.

Example:

```
ErrorMode(@OFF)
FileCopy("data.dat", "c:\backups\*.*", @FALSE)
ErrorMode(@CANCEL)
If LastError() == 1006
     Message("Error", "Please call Tech Support at 555-9999.")
endif
```

See Also:

Debug, ErrorMode

Calculates the base-10 logarithm.

Syntax:

Log10(*x*)

Parameters:

(f) *x*	floating point number.

Returns:

(f)	the logarithm of the argument .

The **Log10** function calculates the base-10 logarithm of the argument. If the argument is negative or zero, an error will occur.

Example:

```
a = Log10(123.45)
Message("Base-10 log of 123.45 is", a)
```

See Also:

Loge, Exp, operator **

Logs (activates) a disk drive.

Syntax:

LogDisk (drive-letter)

Parameters:

(s) drive-letter	the disk drive to log into.

Returns:

(i)	**@TRUE** if the current drive was changed; **@FALSE** if the drive doesn't exist.

Use this function to change to a different disk drive.

Example:

```
LogDisk("C:")
```

See Also:

DirChange, DiskScan

Calculates the natural logarithm.

Syntax:

LogE(*x*)

Parameters:

(f) *x*	floating point number.

Returns:

(f)	the logarithm of the argument *x.*

The **LogE** function calculates the natural logarithm of the argument. If the argument is negative or zero, an error will occur.

Example:

```
a = LogE(123.45)
Message("Natural log of 123.45 is",  a)
```

See Also:

Log10, Exp, operator **

Returns largest number in a list of numbers.

Syntax:

Max (number [, number...])

Parameters:

(f) number floating point number(s).

Returns:

(f) largest number.

Use this function to determine the largest of a set of comma-delimited numbers.

Example:

```
a = Max(5, -3.57, 125, 34E3, 2345.12, -32767)
Message("Largest number is", a)
```

See Also:

Abs, Average, Min, Random

Checks, Unchecks, Enables, Or Disables A Menu Item.

Syntax:

MenuChange (menuname, flags)

Parameters:

(s) menuname	menu item whose status you wish to change.
(s) flags	**@CHECK**, **@UNCHECK**, **@ENABLE**, or **@DISABLE**.

Returns:

(i)	always 1.

There are currently two ways you can modify a menu item:

- You can check and uncheck the item to imply that it corresponds to an option that can be turned on or off.
- You can temporarily disable the item (it shows up as gray) and later re-enable it.

The two sets of flags (**@Check**/**@UnCheck** and **@Enable**/**@Disable**) can be combined in one function call by using the **|** (or) operator.

Note: This command is not part of the WIL Interpreter package, but is documented here because it has been implemented in many of the shell or file manager-type applications which use the WIL Interpreter.

Example:

```
MenuChange("FilePrint", @Disable)
MenuChange("WPWrite", @Enable | @Check)
```

See Also:

IsMenuChecked, IsMenuEnabled

Displays a message to the user.

Syntax:

Message (title, text)

Parameters:

(s) title	title of the message box.
(s) text	text to display in the message box.

Returns:

(i)	always 1.

Use this function to display a message to the user. The user must respond by selecting the **OK** button before processing will continue.

Example:

```
Message("Current directory is", DirGet())
```

which produces:

See Also:

Display, Pause

Returns lowest number in a list of numbers.

Syntax:

Min (number [, number...])

Parameters:

(f) number	floating point number(s).

Returns:

(f)	lowest number.

Use this function to determine the lowest of a set of comma-delimited numbers.

Example:

```
a = Min( 5, -37.5, 125, 34.26, 2345E4, -32767)
Message("Smallest number is", a)
```

See Also:

Abs, Average, Max, Random

Clicks mouse button(s).

Syntax:

MouseClick(click-type, modifiers)

Parameters:

(i) click-type	a mouse button press.
(i) modifiers	click variations for mouse button presses.

Returns:

(i)	**@TRUE** on success; **@FALSE** on error.

This function performs a mouse click at the current cursor position.

"Modifiers" can be set to 0 if none are needed.

Click-types:

@LCLICK	left click
@RCLICK	right click
@MCLICK	middle click
@LDBLCLICK	left double-click
@RDBLCLICK	right double-click
@MDBLCLICK	middle double-click

Modifiers (multiple modifiers can be linked together with a logical OR, "|"):

@SHIFT	hold down shift key
@CTRL	hold down control key
@LBUTTON	hold down left mouse button
@RBUTTON	hold down right mouse button
@MBUTTON	hold down middle mouse button

Example:

```
winpos = WinPlaceGet(@NORMAL, "~Notepad")
; get coordinates for upper right corner of window
x = ItemExtract(3, winpos, " ") - 10
y = ItemExtract(2, winpos, " ") + 10
WinActivate("~Notepad")
MouseMove(x - 10, y + 10, "", "")
MouseClick(@LCLICK, 0)
```

See Also:

MouseClickBtn, MouseMove
MouseInfo, SendKey

Clicks on the specified button control.

Syntax:

MouseClickBtn(parent-windowname, child-windowname, button-text)

Parameters:

(s) parent-windowname the initial part of, or an entire parent window name.
(s) child-windowname the initial part or, or an entire child window name.
(s) button-text text specifying a button control.

Returns:

(i) **@TRUE** on success; **@FALSE** on error.

This function clicks on the pushbutton, radio button, or checkbox whose text is specified by "button-text".

If the button is located within a top-level window, specify the window name in "parent-windowname" and specify a blank string ("") for "child-windowname".

If the button is located within a child window, specify the top-level window name in "parent-windowname" and the child window name in "child-windowname".

Example:

```
SendMenusTo("Exploring", "Tools | Map Network Drive")
Delay(3)
MouseClickBtn("Map Network Drive", "", "Reconnect at logon")
```

See Also:

MouseClick, MouseMove
MouseInfo, SendKey

Returns assorted mouse information.

Syntax:

MouseInfo (request#)

Parameters:

(i) request# see below.

Returns:

(s) see below.

The information returned by **MouseInfo** depends on the value of request#.

Req#	Return value
0	Window name under mouse
1	Top level parent window name under mouse
2	Mouse coordinates, assuming a 1000x1000 virtual screen
3	Mouse coordinates in absolute numbers
4	Status of mouse buttons, as a bitmask:

Binary	Decimal	Meaning
000	0	No buttons down
001	1	Right button down
010	2	Middle button down
011	3	Right and Middle buttons down
100	4	Left button down
101	5	Left and Right buttons down
110	6	Left and Middle buttons down
111	7	Left, Middle, and Right buttons down

5 returns mouse coordinates relative to the client area of the window under the cursor, in virtual (1000x1000) screen units.

6 returns mouse coordinates relative to the client area of the window under the cursor, in virtual (1000x1000) client units.

For example, if mouse is at the center of a 640x480 screen and above the "Clock" window, and the left button is down, the following values would be returned:

Req#	Return value
0	"Clock"
1	"Clock"
2	"500 500"
3	"320 240"
4	"4"

Example:

```
Display(1, "", "Press a mouse button to continue")
buttons = 0
while buttons == 0
     buttons = MouseInfo(4)
endwhile
If buttons & 4
     Display(1, "", "Left button was pressed")
endif
If buttons & 1
     Display(1, "", "Right button was pressed")
endif
```

See Also:

WinMetrics, WinParmGet
MouseClick, MouseClickBtn, MouseMove

Moves the mouse to the specified X-Y coordinates.

Syntax:

MouseMove(X, Y, parent-windowname, child-windowname)

Parameters:

(i) X	integer specifying the coordinate X.
(i) Y	integer specifying the coordinate Y.
(s) parent-windowname	the initial part of, or an entire parent window name.
(s) child-windowname	the initial part or, or an entire child window name.

Returns:

(i) **@TRUE** on success; **@FALSE** on error.

If "parent-windowname" specifies a top-level window and "child-windowname" is a blank string, the specified X-Y coordinates are relative to "parent-windowname".

If "parent-windowname" specifies a top-level window and "child-windowname" specifies a child window of "parent-windowname", the specified X-Y coordinates are relative to "child-windowname".

If "parent-windowname" and "child-windowname" are both blank strings, the specified X-Y coordinates are relative to the Windows desktop.

All coordinates are based on a virtual 1000 x 1000 screen.

Example:

```
MouseMove(335, 110, "Control Panel", "")
```

See Also:

MouseClick, MouseClickBtn,
MouseInfo, SendKey

Returns the contents of a Windows message box.

Syntax:

MsgTextGet(window-name)

Parameters:

(s) window-name full title of the message box window.

Returns:

(s) contents of the message box.

This function returns the text contents of a standard Windows message box. "Window-name" must be the full title of the message box window, and is case-sensitive.

Note1: This function may not work with the types of message boxes created by the application you wish to control if it is not a standard Windows Message box. However, if this function does work, it is the easiest way to keep tabs on an application.

Note2: This function will not work with the types of message boxes created by most **WIL** functions, since they are not standard Windows message boxes.

Example:

```
msg = MsgTextGet("Microsoft Word")
If msg == "Search text not found"
     SendKey("~")
endif
```

See Also:

WinGetActive

All network functionality for WIL is performed via "WIL Extenders", add-on Dlls for WIL, which contain Network commands for assorted networks.

NetInfo is the only WIL network function. It returns the types of the networks currently active on the local machine, and can be used to help determine which network extenders should be loaded in multi-network environments.

Documentation for the various network extenders are found either in a manual for a particular extender or in an associated disk file.

See Also:

AddExtender, DllCall, NetInfo

Determines network(s) installed.

Syntax:

NetInfo(requestcode)

Parameters:

(i) requestcode	0 for primary network name 1 for secondary subnet list

Returns:

(s)	Primary network name for request code 0, or Secondary network list for request code 1.

Use this function to determine the network type(s) running on a workstation. When running in a mixed network environment, it may be important to be able to determine the types of networks running on a workstation so as to be able to load the appropriate network extender Dlls and issue the corresponding commands.

NetInfo(0) will return then name of the primary network, or will return "**MULTINET**" , which indicates the Windows multinet driver is active and the secondary subnet list should be queried. **NetInfo**(0) will return one of the following strings:

NetInfo(0) return values:

NONE	No network installed
MULTINET	Multinet driver installed, see subnet codes.
MSNET	Microsoft Network
LANMAN	LAN Manager
NETWARE	Novell NetWare
VINES	Banyan Vines
10NET	10 Net
LOCUS	Locus
SUNPCNFS	SUN PC NFS
LANSTEP	LAN Step
9TILES	9 Tiles
LANTASTIC	Lantastic
AS400	IBM AS/400
FTPNFS	FTP NFS
PATHWORK	DEC PathWorks
OTHER1	Other (code 1)
OTHER2	Other(code 2)
UNKNOWN	Other (unknown)

If **NetInfo**(0) returned "**MULTINET**" then **NetInfo**(1) will return one or more of the following in a space delimited list:

NetInfo(1) return values:

NONE	No networks active
MSNET	Microsoft Network
LANMAN	LAN Manager
WINNET	Windows Network (Windows for Workgroups, etc)
NETWARE	Novell Netware
VINES	Banyan Vines
OTHER2	Other (code 0x20)
OTHER4	Other (code 0x40)
OTHER8	Other (code 0x80)

Example:

```
a=NetInfo(0)
if a=="MULTINET"
     b=NetInfo(1)
     count=ItemCount(b," ")
     Message("Multinet supporting  %count% networks", b)
else
     Message("Installed Network", a)
endif
```

See Also:

AddExtender, DllCall, Net101

Converts a number to its character equivalent.

Syntax:

Num2Char (integer)

Parameters:

(i) number	any number from 0 to 255.

Returns:

(s)	one-byte string containing the character which the number represents.

Use this function to convert a number to its ASCII equivalent.

Example:

```
; Build a variable containing a CRLF combo
crlf = StrCat(Num2Char(13), Num2Char(10))
Message("NUM2CHAR", StrCat("line1", crlf, "line2"))
```

See Also:

Char2Num, IsNumber

The ability to control and assist the movement of data between applications is one of the key strengths of WIL. In early versions of WIL, the Clipboard and SendKey functions were the only way to transfer data. More recently, dynamic: data exchange (DDE) support allowed both the transfer of data to and the control of other applications.

Now, with support for OLE Automation, you can do much more than share data. From within your WIL script, you can access and manipulate OLE objects that are supplied by other applications. With OLE Automation, you can use WIL to produce custom solutions that utilize data and features from applications that support OLE Automation.

What Is OLE Automation?

OLE Automation is an industry standard that applications use to expose their OLE objects to development tools, macro languages, and container applications that support OLE Automation. For example, a spreadsheet application may expose a worksheet, chart, cell, or range of cells -- all as different types of objects. A word processor might expose objects such as applications, paragraphs, sentences. bookmarks, or selections.

When an application supports OLE Automation, the objects it exposes can be accessed by WIL. You use WIL scripts to manipulate these objects by invoking methods (subroutines) on the objects, or by getting and setting the objects' properties (values).

Accessing OLE Objects

You can manipulate other applications' OLE objects directly by first opening the object with the **ObjectOpen** function. The **ObjectOpen** function is used to open the object. This function requires a single parameter -- a string that indicates the application name and the type of object you want to create. Use the following syntax to specify an object to create:

Application.ObjectType

For example, let's say there is a orgchart application named ORGCHART.EXE that supports a single object: an orgchart. Furthermore, the OrgChart object supports two sub-objects: a box and a line. The object might be defined as:

```
OrgChart.Chart
```

Once you know the type of object you want to create, you use the **ObjectOpen** function to create the object. Set the value returned by the **ObjectOpen** function to a variable. Here's an example:

```
MyChart = ObjectOpen("OrgChart.Chart")
```

One you have the primary object in hand - in the MyChart variable in this case, you can create the sub-objects and assign then to their own variables.

```
TopBox = MyChart.NewBox
BottomBox = MyChart.NewBox
TheLine = MyChart.NewLine
```

When this code executes, the application providing the object is started (if it is not already running) and an object is created. The object belongs to the application that created it. This object can be referenced in WIL scripts using the variable you placed the return value of the **ObjectOpen** function into. For example, after creating the object, you could write code such as this to open sub-objects, change the background color, set a default font, set a title, and save the object to a file:

```
MyChart.Color = "White"
MyChart.FontName = "Arial"
MyChart.FontSize = 12
MyChart.Title = "Tinas Org Chart"
;
TopBox.Position(2,2)
TopBox.Text = "The Boss"
BottomBox.Position(2,8)
BottomBox.Text = "Tina"
;
TheLine.Begin(2,2)
TheLine.End(2,8)
;
MyChart.SaveAs("C:\ORGCHART\TINA.ORG")
```

When you are through with an object, use **ObjectClose** to tell the WIL processor that you are done with the object.

```
ObjectClose(TheLine)
ObjectClose(TopBox)
ObjectClose(BottomBox)
ObjectClose(MyChart)
```

Note1: To get a list of objects that an application supports, you must consult that application's documentation. It may also help to poke around in the Windows registration database. Be aware, though, that intentional, unintentional, or accidental changes to the registration database may completely destroy a Windows installation and require a complete re-installation of ALL your software to recover.

Note2: When creating an object, some applications require that the application providing the object is either active or on the system's path.

Accessing an Object's Properties

To assign a value to a property of an object, put the object variable and property name on the left side of an equation and the desired property setting on the right side. For example:

```
MyChart.Title = "Tinas Org Chart"
```

You can also retrieve property values from an object:

```
TheTitle = MyChart.Title
```

Performing Object Methods

In addition to getting and setting properties, you can manipulate an object using the methods it supports. Some methods may return a value.

```
MyChart.Position(2,2)
TheLine.End(2,8)
MyChart.SaveAs("C:\ORGCHART\TINA.ORG")
;
a= MyChart.Print()
if a == @FALSE
     Message("Error", "Print of MyChart failed")
endif
```

Methods that do not return a value return 0.

Sub-Objects

Some objects contain sub-objects. For example, a box is a sub-object of an orgchart object. You cannot include multiple objects, properties. and methods on the same line of code. Each object must have its own variable. For example:

```
TopBox = MyChart.NewBox
```

Closing an Object
All OLE Automation objects support some method that closes the object and the application that created it. Since OLE objects can use a significant amount of memory, it is a good idea to explicitly close an object when you no longer need it. To close an object. use the appropriate method (most objects support the Close method or the Quit method). For example:

```
Closes the object.
MyChart.Close
Closes the application that created the object.
MyChart.Quit
```

When WIL processing for an object is complete, use the **ObjectClose** function to free WIL processor memory.

```
ObjectClose("MyChart")
```

Note3: The **ObjectClose** function will suggest to the application that owns the object that its services are no longer required, and that, if it has nothing better to do, it might as well close up shop and exit. For these applications, the `"MyChart.Quit"` as shown above is not required.

OLE 2.0 Limitations in WIL

Some OLE objects support features that can't be accessed using WIL. This section discusses known limitations.

Arrays
Some objects have properties and methods that return an array of data or take an array as an argument. WIL cannot process these types of properties or methods.

Named Arguments
You cannot use named arguments when calling an object's methods in WIL. You must specify each argument in the correct order. If you want to omit an optional argument. leave it blank.

Opens or creates an OLE 2.0 Automation object

Syntax:

ObjectOpen(app.objname)

Parameters:

(s) app.objname name of the desired object.

Returns:

(i) a special object handle to be used when referring to the object. See discussion in Object101 section.

The **ObjectOpen** function returns a handle to be used when referring to an OLE 2.0 Automation object. If the Object does not exist, the function will fail.

Example:

```
MyChart = ObjectOpen("OrgChart.Chart")
TopBox = MyChart.NewBox
BottomBox = MyChart.NewBox
TheLine = MyChart.NewLine
;
MyChart.Color = "White"
MyChart.FontName = "Arial"
MyChart.FontSize = 12
MyChart.Title = "Tinas Org Chart"
;
TopBox.Position(2,2)
TopBox.Text = "The Boss"
BottomBox.Position(2,8)
BottomBox.Text = "Tina"
;
TheLine.Begin(2,2)
TheLine.End(2,8)
;
MyChart.SaveAs("C:\ORGCHART\TINA.ORG")
;
ObjectClose(TheLine)
ObjectClose(TopBox)
ObjectClose(BottomBox)
ObjectClose(MyChart)
```

See Also:

Object101, ObjectClose

Closes an OLE 2.0 Automation object

Syntax:

ObjectClose(objecthandle)

Parameters:

(i) objecthandle handle of object to close.

Returns:

(i) **@TRUE** (always)

The **ObjectClose** function closes an object and frees WIL processor memory. The parameter passed to **ObjectClose** must be the same variable that the return value from the corresponding **ObjectOpen** was placed into. Otherwise the function will fail.

Example:

```
MyChart = ObjectOpen("OrgChart.Chart")
a = MyChart.Load("C:\ORGCHART\TINA.ORG")
if a == @TRUE
     MyChart.Print
endif
ObjectClose(MyChart)
```

See Also:

Object101, ObjectOpen

Parses the passed string.

Syntax:

ParseData (string)

Parameters:

(s) string	string to be parsed.

Returns:

(i)	number of parameters in **string**.

This function breaks a string constant or string variable into new sub-string variables named **param1**, **param2**, etc. (maximum of nine parameters). Blank spaces in the original string are used as delimiters to create the new variables.

Param0 is the count of how many sub-strings are found in "string".

Example:

```
username = AskLine("Hello", "Please enter your name","")
ParseData(username)
```

If the user enters:

Joe Q. User

ParseData would create the following variables:

param1	==	Joe
param2	==	Q.
param3	==	User
param0	==	3

See Also:

ItemExtract, StrSub

Provides a message to user. User may cancel processing.

Syntax:

Pause (title, text)

Parameters:

(s) title	title of pause box.
(s) text	text of the message to be displayed.

Returns:

(i)	always 1.

This function displays a message to the user with an exclamation point icon. The user may respond by selecting the **OK** button, or may cancel the processing by selecting **Cancel**.

The **Pause** function is similar to the **Message** function, except for the addition of the **Cancel** button and icon.

Example:

```
Pause("Change Disks", "Insert new disk into Drive A:")
```

which produces:

See Also:

Display, Exit, Message, Terminate

Controls multimedia devices.

Syntax:

PlayMedia (mci-string)

Parameters:

(s) mci-string string to be sent to the multimedia device.

Returns:

(s) response from the device.

If the appropriate Windows multimedia extensions are present, this function can control multimedia devices. Valid command strings depend on the multimedia devices and drivers installed. The basic Windows multimedia package has a waveform device to play and record waveforms, and a sequencer device to play MIDI files. Refer to the appropriate documentation for information on command strings.

Many multimedia devices accept the WAIT or NOTIFY parameters as part of the command string:

WAIT	Causes the system to stop processing input until the requested operation is complete. You cannot switch tasks when WAIT is specified.
NOTIFY	Causes the WIL program to suspend execution until the requested operation completes. You can perform other tasks and switch between tasks when NOTIFY is specified.
WAIT NOTIFY	Same as WAIT

If neither WAIT nor NOTIFY is specified, the multimedia operation is started and control returns immediately to the WIL program.

In general, if you simply want the WIL program to wait until the multimedia operation is complete, use the NOTIFY keyword. If you want the system to hang until the operation is complete, use WAIT. If you just want to start a multimedia operation and have the program continue processing, don't use either keyword.

The return value from **PlayMedia** is whatever string the driver returns. This will depend on the particular driver, as well as on the type of operation performed.

Example:

```
; Plays a music CD on a CDAudio
; drive, from start to finish
stat = PlayMedia("status cdaudio mode")
answer = 1
If stat == "playing"
     answer = AskYesNo("CD Audio", "CD is Playing.  Stop?")
     If answer == 0 Then Exit
endif
PlayMedia("open cdaudio shareable alias donna notify")
PlayMedia("set donna time format tmsf")
PlayMedia("play donna from 1")
PlayMedia("close donna")
Exit
:cancel
PlayMedia("set cdaudio door open")
```

See Also:

Beep, PlayMidi, PlayWaveForm, Sounds

Plays a MID or RMI sound file.

Syntax:

PlayMidi (filename, mode)

Parameters:

(s) filename	name of the MID or RMI sound file.
(i) mode	play mode (see below).

Returns:

(i)	**@TRUE** if successful; **@FALSE** if unsuccessful.

If Windows multimedia sound extensions are present, and MIDI-compatible hardware is installed, this function will play a MID or RMI sound file. If "filename" is not in the current directory and a directory is not specified, the path will be searched to find the file.

If "mode" is set to 0, the WIL program will wait for the sound file to complete before continuing. If "mode" is set to 1, it will start playing the sound file and continue immediately.

Example:

```
PlayMidi("canyon.mid", 1)
```

See Also:

Beep, PlayMedia, PlayWaveForm, Sounds

Plays a WAV sound file.

Syntax:

PlayWaveForm (filename, mode)

Parameters:

(s) filename	name of the WAV sound file.
(i) mode	play mode (see below).

Returns:

(i)	**@TRUE** if successful; **@FALSE** if unsuccessful.

If Windows multimedia sound extensions are present, and waveform-compatible hardware is installed, this function will play a WAV sound file. If "filename" is not in the current directory and a directory is not specified, the path will be searched to find the file. If "filename" is not found, the WAV file associated with the "SystemDefault" keyword is played, (unless the "NoDefault" setting is on).

Instead of specifying an actual filename, you may specify a keyword name from the [Sound] section of the WIN.INI file (eg, "SystemStart"), in which case the WAV file associated with that keyword name will be played.

"Mode" is a bitmask, composed of the following bits:

Mode	Meaning
0	Wait for the sound to end before continuing.
1	Don't wait for the sound to end. Start the sound and immediately process more statements.
2	If sound file not found, do not play a default sound
9	Continue playing the sound forever, or until a **PlayWaveForm(" ", 0)** statement is executed
16	If another sound is already playing, do not interrupt it. Just ignore this **PlayWaveForm** request.

You can combine these bits using the binary OR operator.

The command **PlayWaveForm(" ", 0)** can be used at any time to stop sound.

Examples:

```
PlayWaveForm("tada.wav", 0)

PlayWaveForm("SystemDefault", 1 | 16)
```

See Also:

Beep, PlayMedia, PlayMidi, Sounds

Instructs the application responsible for a file to print the file on the default printer.

Syntax:

Print(data file, directory, display mode, waitflag)

Parameters:

(s) data file	the name of the file to print.
(s) directory	current working directory (if applicable).
(i) display mode	@NORMAL, @ICON, @ZOOMED, @HIDDEN.
(i) waitflag	@WAIT, @NOWAIT.

Returns:

(i) **@TRUE** if the function completed.
@FALSE if an error occurred.

Instructs the application responsible for a file to print the file on the default printer. The Windows ShellExecute API is used. It examines the extension of the data file, looks the extension up in the Windows registry to determine the owning application, starts the owning application, and instructs it, also according to data specified in the registry, to print the data file. Most applications will send the printout to the default printer, however the exact action taken by the application is under the applications own control.

Applications that support this command or their setup programs will generally make the necessary modifications to the Windows registry to allow this function to perform successfully.

Note: The @WAIT parameter is not supported in 32 bit versions of this product.

Example:

```
FileCopy("C:\config.sys", "xxx.txt", 0)
a=Print("xxx.txt", DirGet(), @NORMAL, @WAIT)
FileDelete("xxx.txt")
```

See Also:

RunShell

Computes a pseudo-random number.

Syntax:

Random (max)

Parameters:

(i) max	largest desired integer number.

Returns:

(i)	unpredictable positive number.

This function will return a random integer between 0 and **max**.

Example:

```
a = Random(79)
Message("Random number between 0 and 79", a)
```

See Also:

Average, Max, Min

In the early days of Windows, there was a single INI file, WIN.INI. As Windows advanced, the WIN.INI file became cluttered, and it was then subdivided into SYSTEM.INI, WIN.INI and a large number of application specific INI files.

With the advent of OLE, Windows NT, and other advancements in operating system technology, the simple INI files could not hold or organize the new and vast amounts of information required to run a modern operating system. For this reason, a new data storage structure was developed. Sometimes called the Registry or the Registration Database, this new file was designed to be able to hold and organize large amounts of seeming random information.

The Registration Database is organized in a tree structure, much like a file system. At every level "keys" to the data exist. The keys are analogous to the sub-directories in a file system. A set of keys to a data item look very much like a path to a filename.

In Windows, the Registration Database may be viewed and altered with the "RegEdit" utility. It requires a "/v" parameter, as in "regedit.exe /v", to enable the edit mode of the utility. In Windows NT and Windows 95, there exists the "RegEdt32" utility that allows access to the Registration Database. Neither of these utilities can be found in the normally installed Program Manager groups, and must be ferreted out on your own.

CAUTION: The reason that these utilities are not made easily accessible is that it is trivially easy to make a modification to the database that will completely ruin a Windows, Windows 95 or Windows NT installation, and may require a complete re-install of the Windows version to get the system running again. It is best to study the database and understand what is going on, instead of perhaps using a somewhat common "trial and error" method of making changes.

There are two ways to query and set information in the Registration Database. The easy way is to simply base all operations on an always open **root** key. Using just the **RegQueryValue** and **RegSetValue** functions you can alter all data associated with pre-defined keys.

The other more complicated and more flexible method is to open or create a desired key, using the **RegOpenKey** or **RegCreateKey** functions, modify the database with other registration functions, passing it a handle to the key, and then finally close the database with the **RegCloseKey** function.

Most of the registration functions accept both a handle to a key and a subkey string which further defines a lower key. Oftentimes the subkey string is simply set to null (empty quotes), and the handle points directly to the destination. At other times, one of the pre-defined roots of the database is passed as the handle and the subkey string points all the way down to the desired data item.

Pre-defined keys are provided. Windows has a single root key that is always open. Its handle can be accessed via the built-in WIL constant **@REGROOT**. Windows NT and Windows 95 provides several keys, as shown in the table below:

Windows handles to always open keys

@REGROOT	Root of the Registration Database.

32 bit Windows handles to always open keys

@REGMACHINE	Root of the machine section of the Registration Database.
@REGCLASSES	Shortcut to the classes sub-section.
@REGUSERS	Root of the user section of the Registration Database.

@REGCURRENT	Shortcut to the current users sub-section.

Note: Windows NT and Windows 95 added named data types to the registration database entries. As a result there is a special way to access the named data entries in Windows NT and Windows 95 registration databases. The steps are as follows:

1) Open a key pointing to the group of data items that contains the desired data item.
2) Use the RegSetValue or the RegQueryValue functions to access the data value. The "subkey-string" must contain only the data item name enclosed in square brackets.
3) Be sure to close the key when operations are complete.

For example, here is a WIL script which modifies the default printer in Windows NT.

```
newprt = "LJ3,winspool,LPT1:"  ;the printer you want to assign as the
                               ;default
regkey = RegOpenKey(@REGCURRENT, "Software\Microsoft\Windows
                         NT\CurrentVersion\Windows")
defprt = RegQueryValue(regkey, "[Device]")
Message("Previous Default printer", defprt)
RegSetValue(regkey, "[Device]", newprt)
defprt = RegQueryValue(regkey, "[Device]")
Message("New Default printer", defprt)
RegCloseKey(regkey)
```

Creates registry entries for a program under "App Paths".

Syntax:

RegApp(program-name, path)

Parameters:

(s) program-name the name of an executable program (EXE), optionally containing a path.

(s) path optional desired "PATH" setting for the specified program.

Returns:

(i) **@TRUE** Entry was created;
@FALSE Operation failed.

This function creates (or updates) a sub-key in the registration database for the specified program, of the form PROGNAME.EXE, under the key:

HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\App Paths\

If "program-name" does not contain a path, the function will search for it on the path.

The function creates a "(Default)" value for the key, containing the full path to the specified program.

If the "path" parameter is not a blank string (""), the function also creates a "Path" value for the key. This should contain one or more directories (separated by semi-colons) which you want to be prepended to the existing "PATH" environment variable when the program is run.

Example:

```
RegApp("excel.exe", "c:\excel;c:\word")
```

See Also:

InstallFile, RegOpenKey, RegCloseKey, RegDeleteKey, RegSetValue, RegQueryValue, RegQueryKey, and the section on Registration Database Operations

Closes a key to the Registration Database.

Syntax:

RegCloseKey(handle)

Parameters:

(i) handle	handle to a registration database key.

Returns:

(i)	**@TRUE** Database was closed. **@FALSE** Close failed.

The **RegCloseKey** function closes a key to the Registration Database. The key is opened or created with the **RegOpenKey** or the **RegCreateKey** functions. Registration Database changes made using a key are saved when the key is closed.

Example:

```
key=RegOpenkey(@RegRoot, "txtfile")
b=RegQueryValue(key, "shell\open")
RegCloseKey(key)
Message("Default textfile editor is", b)
```

See Also:

RegOpenKey, RegCreateKey, RegSetValue, RegQueryValue, and the section on Registration Database Operations

Returns a handle to a new registration database key.

Syntax:

RegCreateKey(handle, subkey-string)

Parameters:

(i) handle handle to a registration database key.
(s) subkey-string a path from the key provided to the desired key.

Returns:

(i) handle a handle to the new key.

The **RegCreateKey** function will create and open a desired key into the Registration Database. If the key already exists, **RegCreateKey** will open it. When using **RegCreateKey** you must pass a pre-existing, open key to create a new key. A pre-defined key may be used.

Example:

```
; Associate DIZ files with the default textfile editor
key=RegCreatekey(@REGROOT, ".diz")
RegSetValue(key, "", "txtfile")
RegClosekey(key)

; The preceding is actually a hard way to do ...
RegSetValue(@REGROOT, ".diz", "txtfile")
```

See Also:

RegOpenKey, RegCloseKey, RegDeleteKey, RegSetValue, RegQueryValue, RegQueryKey, and the section on Registration Database Operations

Deletes a key and data items associated with the key.

Syntax:

RegDeleteKey(handle, subkey-string)

Parameters:

(i) handle an open registration database key (see below).
(s) subkey-string a path from the key provided to the desired key.

Returns:

(i) **@TRUE** Key was deleted.
@FALSE Key was not found.

The **RegDeleteKey** function will delete a pre-existing key from the Registration Database. If the key does not exist, **RegDeleteKey** will fail. When using **RegDeleteKey** you must pass a pre-existing, open key to access the desired key. A pre-defined key may be used.

Example:

```
; Delete default operation for *.DIZ files
; from the registration database
RegDeleteKey(@REGROOT, ".diz")
```

See Also:

RegOpenKey, RegCreateKey, RegCloseKey, RegDelValue and the section on Registration Database Operations

Deletes a named value data item for the specified subkey from the registry.

Syntax:

RegDelValue(handle, subkey-string)

Parameters:

(i) handle	handle to a registration database key.
(s) subkey-string	a path from the key provided to the desired key.

Returns:

(i)	**@TRUE** Data item was deleted; **@FALSE** Data was not found.

"Subkey-string" must be enclosed in square brackets (see **RegSetValue**). "Subkey-string" of "[]" deletes the "default" value.

Example:

```
RegDelValue(@REGROOT, ".diz")
```

See Also:

RegOpenKey, RegCreateKey, RegCloseKey, RegSetValue, RegQueryValue, and the section on Registration Database Operations

Returns a handle to an existing registration database key.

Syntax:

RegOpenKey(handle, subkey-string)

Parameters:

(i) handle	handle to a registration database key.
(s) subkey-string	a path from the key provided to the desired key.

Returns:

(i) key	a handle to the new key.

The **RegOpenKey** function will open a desired key into the Registration Database. If the key does not exist, **RegOpenKey** will fail. When using **RegOpenKey** you must pass a pre-existing, open key to create a new key. A pre-defined key may be used.

Example:

```
; Find default text editor
key=RegOpenkey(@RegRoot, "txtfile")
who=RegQueryValue(key, "shell\open\command")
RegClosekey(key)
Message("Default text file editor is", who)
;
; The preceding is actually a hard way to do ...
who=RegQueryValue(@REGROOT, "txtfile\shell\open\command")
Message("Default text file editor is", who)
```

See Also:

RegCreateKey, RegCloseKey, RegDeleteKey, RegSetValue, RegQueryValue, RegQueryKey, and the section on Registration Database Operations

Returns binary value at subkey position.

Syntax:

RegQueryBin(handle, subkey-string)

Parameters:

(i) handle	handle to a registration database key.
(s) subkey-string	a path from the key provided to the desired key.

Returns:

(s)	contents of data item at key position desired.

The value is returned as a space-delimited string of hex bytes; e.g.:
"AB 45 3E 01".

Example:

```
value = RegQueryBin(@REGCURRENT, "Control Panel\Appearance\[CustomColors]")
Message("CustomColors", value)
```

See Also:

RegQueryDword, RegQueryValue

Returns DWORD value at subkey position.

Syntax:

RegQueryDword(handle, subkey-string)

Parameters:

(i) handle	handle to a registration database key.
(s) subkey-string	a path from the key provided to the desired key.

Returns:

(i)	contents of data item at key position desired.

Example:

```
value = RegQueryDword(@REGCURRENT, "Control Panel\Desktop\[ScreenSaveUsePassword]")
Message("ScreenSaveUsePassword", value)
```

See Also:

RegQueryBin, RegQueryValue

Returns a list of named data items for a subkey.

Syntax:

RegQueryItem(handle, subkey-string)

Parameters:

(i) handle	handle to a registration database key.
(s) subkey-string	a path from the key provided to the desired key.

Returns:

(s)	tab-delimited list of named data items for the specified subkey-string.

Example:

```
items = RegQueryItem(@REGCURRENT,     "Software\Microsoft\Windows\CurrentVersion\
Extensions")
item = TextSelect("Select an item", items, @TAB)
value = RegQueryValue(@REGCURRENT,    "Software\Microsoft\Windows\CurrentVersion\
Extensions[%item%]")
Message(item, value)
```

See Also:

RegQueryValue, and the section on Registration Database Operations

Returns subkeys of the specified key.

Syntax:

RegQueryKey(handle, index)

Parameters:

(i) handle	handle to a registration database key.
(i) index	zero-based index into list of subkeys.

Returns:

(s)	name of desired subkey.

Use this function to enumerate the subkeys of a desired key. The first subkey is referenced by index number 0, the second key by 1, and so on. If the key does not exist, a null string will be returned.

Example:

```
for i=0 to 100
     a=RegQueryKey(@regroot, I)
     Display(2, "Root subkey number %i%", a)
next
```

See Also:

RegOpenKey, RegCreateKey, RegCloseKey, RegDeleteKey, RegSetValue, RegQueryValue, and the section on Registration Database Operations

Returns data item string at subkey position.

Syntax:

RegQueryValue(handle, subkey-string)

Parameters:

(i) handle handle to a registration database key.
(s) subkey-string a path from the key provided to the desired key.

Returns:

(s) contents of data item at key position desired.

Use this function to retrieve data items from the Registration Database. The function will fail if the data item does not exist.

Note: Windows NT and Windows 95 added named data types to the registration database entries. As a result there is a special way to access the named data entries in Windows NT and Windows 95 registration databases. The steps are as follows:

1) Open a key pointing to the group of data items that contains the desired data item.
2) Use the RegSetValue or the RegQueryValue functions to access the data value. The "subkey-string" must contain only the data item name enclosed in square brackets.
3) Be sure to close the key when operations are complete.

For example, here is a WIL script which modifies the default printer in Windows NT.

```
newprt = "LJ3,winspool,LPT1:"  ;the printer you want to assign as the
                               ;default
regkey = RegOpenKey(@REGCURRENT, "Software\Microsoft\Windows
                         NT\CurrentVersion\Windows")
defprt = RegQueryValue(regkey, "[Device]")
Message("Previous Default printer", defprt)
RegSetValue(regkey, "[Device]", newprt)
defprt = RegQueryValue(regkey, "[Device]")
Message("New Default printer", defprt)
RegCloseKey(regkey)
```

Example:

```
a1=RegOpenkey(@RegRoot, "crdfile")
a2=RegOpenkey(a1, "shell\print")
c=RegQueryValue(a2, "command")
RegCloseKey(a2)
RegClosekey(a1)
Message("Cardfile Print Processor is", c)
;
; The preceding is the hard way to do the following
b=RegQueryValue(@REGROOT, "crdfile\shell\print\command")
Message("Cardfile Print Processor is", b)
```

See Also:

RegOpenKey, RegCreateKey, RegCloseKey, RegDeleteKey, RegDelValue, RegSetValue, RegQueryValue, and the section on Registration Database Operations

Sets a binary value in the Registration Database.

Syntax:

RegSetBin(handle, subkey-string, value)

Parameters:

(i) handle	handle to a registration database key.
(s) subkey-string	a path from the key provided to the desired key.
(s) value	data to be stored into the database at desired key.

Returns:

(i)	always 1.

The value is specified as a space-delimited string of hex bytes; e.g.:
"AB 45 3E 01".

Example:

```
RegSetBin(@REGCURRENT, "A Test Key\[My Binary Value]", "00 01 22 AB FF 00")
```

See Also:

RegSetDword , RegSetValue

Sets a DWORD value in the Registration Database.

Syntax:

RegSetDword(handle, subkey-string, value)

Parameters:

(i) handle	handle to a registration database key.
(s) subkey-string	a path from the key provided to the desired key.
(s) value	data to be stored into the database at desired key.

Returns:

(i)	always 1.

Example:

```
RegSetDword(@REGCURRENT, "A Test Key\[My DWORD Value]", 32)
```

See Also:

RegSetBin, RegSetValue

Sets the value of a data item in the Registration Database.

Syntax:

RegSetValue(handle, subkey-string, value)

Parameters:

(i) handle	handle to a registration database key.
(s) subkey-string	a path from the key provided to the desired key.
(s) value	data to be stored into the database at desired key.

Returns:

(i) **@TRUE** Data item was stored;
@FALSE Operation failed.

Use this function to store data items into the Registration Database. If the desired key does not exist, the function will create it.

Note: Windows NT and Windows 95 have added named data types to the registration database entries. As a result there is a special way to access the named data entries in Windows NT and Windows 95 registration databases. The steps are as follows:

1) Open a key pointing to the group of data items that contains the desired data item.
2) Use the RegSetValue or the RegQueryValue functions to access the data value. The "subkey-string" must contain only the data item name enclosed in square brackets.
3) Be sure to close the key when operations are complete.

For example, here is a WIL script which modifies the default printer in Windows NT.

```
newprt = "LJ3,winspool,LPT1:"  ;the printer you want to assign as the
                               ;default
regkey = RegOpenKey(@REGCURRENT, "Software\Microsoft\Windows
                         NT\CurrentVersion\Windows")
defprt = RegQueryValue(regkey, "[Device]")
Message("Previous Default printer", defprt)
RegSetValue(regkey, "[Device]", newprt)
defprt = RegQueryValue(regkey, "[Device]")
Message("New Default printer", defprt)
RegCloseKey(regkey)
```

Example:

```
; Associate DIZ files with the default textfile editor
key=RegCreatekey(@REGROOT, ".diz")
RegSetValue(key, "", "txtfile")
RegClosekey(key)

; The preceding is actually a hard way to do ...
RegSetValue(@REGROOT, ".diz", "txtfile")
```

See Also:

RegOpenKey, RegCreateKey, RegCloseKey, RegDeleteKey, RegDelValue, RegQueryValue, RegQueryKey, and the section on Registration Database Operations

Reloads menu file(s).

Syntax:

Reload ( )

Parameters:

(none)

Returns:

(i) always 1.

This function is used to reload the WIL Interpreter's menu file(s). It is useful after editing a menu file, to cause the changes to immediately take effect.

Note1: This command does not take effect until the WIL program has completed, regardless of where the command may appear in the program.

Note2: This command is not part of the WIL Interpreter package, but is documented here because it has been implemented in many of the shell or file manager-type applications which use the WIL Interpreter.

Example:

```
RunZoomWait("notepad.exe", "c:\win\cmdpost.cpm")
Reload()
```

Used to return from a **Call** to the calling program or to return from a **GoSub** *:label*.

Syntax:

Return

Parameters:

(none)

Returns:

(not applicable)

The **Return** statement returns to the statement following the most recently executed **Call** or **GoSub** statement. If there is no matching **Call** or **GoSub**, an **Exit** is assumed.

Example:

```
Display(2, "End of subroutine", "Returning to MAIN.WBT")
Return
```

See Also:

Call, Exit, GoSub

Runs a program as a normal window.

Syntax:

Run (program-name, parameters)

Parameters:

(s) program-name	the name of the desired .EXE, .COM, .PIF, .BAT file, or a data file.
(s) parameters	optional parameters as required by the application.

Returns:

(i)	**@TRUE** if the program was found; **@FALSE** if it wasn't.

Use this command to run an application.

If the drive and path are not part of the program name, the current directory will be examined first, followed by the Windows and Windows System directories, and then the DOS path will be searched to find the desired executable file.

If the "program-name" doesn't have an extension of .EXE, .COM, .PIF, or .BAT, it will be run in accordance with whatever is in the **[Extensions]** section of the WIN.INI file. When this happens, any "parameters" you specified are ignored.

Examples:

```
Run("notepad.exe", "abc.txt")

Run("clock.exe", "")

Run("paint.exe", "pict.msp")
```

See Also:

RunShell, AppExist, RunHide, RunIcon, RunWait, RunZoom, ShellExecute WinClose, WinExeName, WinWaitClose

Launches a program and has it inherit the current environment as set with the **EnvironSet** command.

Syntax:

RunEnviron(program-name, params, display mode, waitflag)

Parameters:

(s) program-name the name of the desired Windows EXE file.
(i) params optional parameters as required by the application.
(i) display mode @NORMAL, @ICON, @ZOOMED, @HIDDEN.
(i) waitflag @WAIT, @NOWAIT.

Returns:

(i) **@TRUE** Function was executed normally.
@FALSE Function failed.

Use this function to launch a program with the current environment.

Note1: Only Windows EXEs may be executed with this command. It is possible to change the environment for DOS programs by launching a DOS BAT file that includes DOS SET statements to alter the environment settings before executing the DOS program. See Note 2. Use the **Run** commands to launch DOS programs and BAT files.

Note2: When running 32 bit versions of WinBatch, this function is identical to the **RunShell** function.

Note3: To alter the path for DOS programs, all that is required is a simple batch file, and the usual WIL **Run** command. Assuming the case where one wished to run "command.com" with the path "c:\special", a generic batch file as shown below will suffice, along with passing all the information required as parameters in the WIL **Run** command.

```
DoPath.bat    file listing
        SET PATH=%1
        ECHO %PATH%
        PAUSE
        %2   %3   %4   %5   %6   %7   %8   %9

WIL Run Command
        Run("dopath.bat", "c:\special   command.com")
```

HINT: Use the WWENVMAN.Dll, WIL Environment extender, for enhanced environment management. Further explanations are in WWWENV.HLP.

Example:

```
Path=Environment("PATH")
NewPath=StrCat("X:\EXCEL;", Path)
;Clear DUMMY variable to free up environment space
EnvironSet("DUMMY","")
EnvironSet("PATH", NewPath)
a = RunEnviron("X:\Excel.exe", " ", @NORMAL, @WAIT)
```

See Also:

RunShell, Run, RunWait, ShellExecute Environment, EnvironSet

Exits Windows, runs a DOS program or batch file, and restarts Windows when DOS program or batch file exits.
Great for running uncooperative DOS applications outside of Windows.

Syntax:

RunExit(program-name, parameters)

Parameters:

(s) program-name the name of the desired DOS BAT, COM or EXE file.
(s) parameters optional parameters as required by the application.

Returns:

(i) **@FALSE** if the program wasn't found, and the command was not executed. If the commands works, the batch file is terminated.

Use this command to exit Windows and run a DOS application. Once the DOS application has finished, Windows will be restarted. The DOS path will be searched to find the desired executable file.

Note: This command is not supported in the 32 bit version of WinBatch.

Example:

```
DirChange("C:\DOSGAMES")
RunExit("arcade.exe", "")
```

See Also:

IntControl 66 67 & 68, EndSession

Runs a program as a hidden window.

Syntax:

RunHide (program-name, parameters)

Parameters:

(s) program-name	the name of the desired .EXE, .COM, .PIF, .BAT file, or a data file.
(s) parameters	optional parameters as required by the application.

Returns:

(i)	**@TRUE** if the program was found; **@FALSE** if it wasn't.

Use this command to run an application as a hidden window.

If the drive and path are not part of the program name, the current directory will be examined first, followed by the Windows and Windows System directories, and then the DOS path will be searched to find the desired executable file.

If the "program-name" doesn't have an extension of .EXE, .COM, .PIF, or .BAT, it will be run in accordance with whatever is in the **[Extensions]** section of the WIN.INI file. When this happens, any "parameters" you specified are ignored.

Note: When this command launches an application, it merely informs it that you want it to run as a hidden window. Whether or not the application honors your wish is beyond **RunHide**'s control.

Examples:

```
RunHide("notepad.exe", "abc.txt")

RunHide("clock.exe", "")

RunHide("paint.exe", "pict.msp")
```

See Also:

RunShell, Run, RunHideWait, RunIcon, RunZoom, ShellExecute WinClose, WinExeName, WinHide, WinWaitClose

Runs a program as a hidden window, and waits for it to close.

Syntax:

RunHideWait (program-name, parameters)

Parameters:

(s) program-name	the name of the desired .EXE, .COM, .PIF, .BAT file, or a data file.
(s) parameters	optional parameters as required by the application.

Returns:

(i)	**@TRUE** if the program was found; **@FALSE** if it wasn't.

Use this command to run an application as a hidden window. The WIL program will suspend processing until the application is closed.

If the drive and path are not part of the program name, the current directory will be examined first, followed by the Windows and Windows System directories, and then the DOS path will be searched to find the desired executable file.

If the "program-name" doesn't have an extension of .EXE, .COM, .PIF, or .BAT, it will be run in accordance with whatever is in the **[Extensions]** section of the WIN.INI file. When this happens, any "parameters" you specified are ignored.

Note: When this command launches an application, it merely informs it that you want it to run as a hidden window. Whether or not the application honors your wish is beyond **RunHideWait's** control.

Example:

```
RunHideWait(Environment("COMSPEC"), "/c dir *.exe> temp.txt")
Print("temp.txt","",@NORMAL,@NOWAIT)
```

See Also:

RunShell, RunHide, RunIconWait, RunWait, RunZoomWait, ShellExecute WinWaitClose

Runs a program as an iconic (minimized) window.

Syntax:

RunIcon (program-name, parameters)

Parameters:

(s) program-name	the name of the desired .EXE, .COM, .PIF, .BAT file, or a data file.
(s) parameters	optional parameters as required by the application.

Returns:

(i)	**@TRUE** if the program was found; **@FALSE** if it wasn't.

Use this command to run an application as an icon.

If the drive and path are not part of the program name, the current directory will be examined first, followed by the Windows and Windows System directories, and then the DOS path will be searched to find the desired executable file.

If the "program-name" doesn't have an extension of .EXE, .COM, .PIF, or .BAT, it will be run in accordance with whatever is in the **[Extensions]** section of the WIN.INI file. When this happens, any "parameters" you specified are ignored.

Note: When this command launches an application, it merely informs it that you want it to begin as an icon. Whether or not the application honors your wish is beyond **RunIcon**'s control.

Examples:

```
RunIcon("notepad.exe", "abc.txt")

RunIcon("clock.exe", "")

RunIcon("paint.exe", "pict.msp")
```

See Also:

RunShell, IconArrange, Run, RunHide, RunIconWait, RunZoom, ShellExecute WinClose, WinExeName, WinIconize, WinWaitClose

Runs a program as an iconic (minimized) window, and waits for it to close.

Syntax:

RunIconWait (program-name, parameters)

Parameters:

(s) program-name	the name of the desired .EXE, .COM, .PIF, .BAT file, or a data file.
(s) parameters	optional parameters as required by the application.

Returns:

(i)	**@TRUE** if the program was found; **@FALSE** if it wasn't.

Use this command to run an application as an icon. The WIL program will suspend processing until the application is closed.

If the drive and path are not part of the program name, the current directory will be examined first, followed by the Windows and Windows System directories, and then the DOS path will be searched to find the desired executable file.

If the "program-name" doesn't have an extension of .EXE, .COM, .PIF, or .BAT, it will be run in accordance with whatever is in the **[Extensions]** section of the WIN.INI file. When this happens, any "parameters" you specified are ignored.

Note: When this command launches an application, it merely informs it that you want it to begin as an icon. Whether or not the application honors your wish is beyond **RunIconWait**'s control.

Example:

```
RunIconWait(Environment("COMSPEC"), "/c dir *.exe> temp.txt")
Print("temp.txt","",@NORMAL,@NOWAIT)
```

See Also:

RunShell, IconArrange, RunHideWait, RunIcon, RunWait, RunZoomWait, ShellExecute
WinWaitClose

Runs a program via the Windows ShellExecute command

Syntax:

RunShell(program-name, params, directory, display mode, waitflag)

Parameters:

(s) program-name	the name of the desired .EXE, .COM, .PIF, .BAT file or a data file.
(s) params	optional parameters as required by the application.
(s) directory	current working directory (if applicable).
(i) display mode	@NORMAL, @ICON, @ZOOMED, @HIDDEN.
(i) waitflag	@WAIT, @NOWAIT.

Returns:

(i)	**@TRUE** if the program was found; **@FALSE** if it wasn't.

The Windows ShellExecute API is used. If a data file is specified instead of an executable file (i.e. EXE, COM, PIF, or BAT file), the Windows ShellExecute function examines the extension of the data file, looks the extension up in the Windows registry to determine the owning application and starts the owning application, passing the data file name as a parameter. Applications that support this command or their setup programs will generally make the necessary modifications to the Windows registry to allow this function to perform successfully.

If the drive and path are not part of the program name, the current directory will be examined first, followed by the Windows and Windows System directories, and then the DOS path will be searched to find the desired executable file.

If the **@WAIT** parameter is used, the WIL program will suspend processing until the application is closed.

Note: When this command launches an application, it merely informs it how you wish it to appear on the screen. Whether or not the application honors your wish is beyond this function's control.

Example:

```
RunShell("NOTEPAD.EXE", "CONFIG.SYS", "C:\", @NORMAL, @NOWAIT)
```

See Also:

Print, Run, RunWait, ShellExecute

Runs a program as a normal window, and waits for it to close.

Syntax:

RunWait (program-name, parameters)

Parameters:

(s) program-name	the name of the desired .EXE, .COM, .PIF, .BAT file, or a data file.
(s) parameters	optional parameters as required by the application.

Returns:

(i)	**@TRUE** if the program was found; **@FALSE** if it wasn't.

Use this command to run an application. The WIL program will suspend processing until the application is closed.

If the drive and path are not part of the program name, the current directory will be examined first, followed by the Windows and Windows System directories, and then the DOS path will be searched to find the desired executable file.

If the "program-name" doesn't have an extension of .EXE, .COM, .PIF, or .BAT, it will be run in accordance with whatever is in the **[Extensions]** section of the WIN.INI file. When this happens, any "parameters" you specified are ignored.

Example:

```
RunWait(Environment("COMSPEC"), "/c dir *.exe> temp.txt")
Print("temp.txt","",@NORMAL,@WAIT)
FileDelete("temp.txt")
```

See Also:

RunShell, AppWaitClose, Run, RunHideWait, RunIconWait, RunZoomWait, ShellExecute
WinWaitClose

Runs a program as a full-screen (maximized) window.

Syntax:

RunZoom (program-name, parameters)

Parameters:

(s) program-name	the name of the desired .EXE, .COM, .PIF, .BAT file, or a data file.
(s) parameters	optional parameters as required by the application.

Returns:

(i)	**@TRUE** if the program was found; **@FALSE** if it wasn't.

Use this command to run an application as a full-screen window.

If the drive and path are not part of the program name, the current directory will be examined first, followed by the Windows and Windows System directories, and then the DOS path will be searched to find the desired executable file.

If the "program-name" doesn't have an extension of .EXE, .COM, .PIF, or .BAT, it will be run in accordance with whatever is in the **[Extensions]** section of the WIN.INI file. When this happens, any "parameters" you specified are ignored.

Note: When this command launches an application, it merely informs it that you want it to be maximized to full-screen. Whether or not the application honors your wish is beyond **RunZoom**'s control.

Examples:

```
RunZoom("notepad.exe", "abc.txt")

RunZoom("clock.exe", "")

RunZoom("paint.exe", "pict.msp")
```

See Also:

RunShell, Run, RunHide, RunIcon, RunZoomWait, ShellExecute WinClose, WinExeName, WinWaitClose, WinZoom

Runs a program as a full-screen (maximized) window, and waits for it to close.

Syntax:

RunZoomWait (program-name, parameters)

Parameters:

(s) program-name	the name of the desired .EXE, .COM, .PIF, .BAT file, or a data file.
(s) parameters	optional parameters as required by the application.

Returns:

(i)	**@TRUE** if the program was found; **@FALSE** if it wasn't.

Use this command to run an application as a full-screen window. The WIL program will suspend processing until the application is closed.

If the drive and path are not part of the program name, the current directory will be examined first, followed by the Windows and Windows System directories, and then the DOS path will be searched to find the desired executable file.

If the "program-name" doesn't have an extension of .EXE, .COM, .PIF, or .BAT, it will be run in accordance with whatever is in the **[Extensions]** section of the WIN.INI file. When this happens, any "parameters" you specified are ignored.

Note: When this command launches an application, it merely informs it that you want it to be maximized to full-screen. Whether or not the application honors your wish is beyond **RunZoomWait**'s control.

Example:

```
RunZoomWait(Environment("COMSPEC"), "/c dir *.exe> temp.txt")
Print("temp.txt","",@NORMAL,@NOWAIT)
```

See Also:

RunShell, RunHideWait, RunIconWait, RunWait, RunZoom, ShellExecute WinWaitClose

The **Select** statement allows selection among multiple blocks of statements.

Syntax:

Select expression
case expression
    statements
    break
case expression
    statements
    break
EndSelect

Parameters:

(s) expression an expression that must evaluate to an integer.

The **Select** statement allows selection among multiple blocks of statements, depending on the value of an expression. The expression must evaluate to an integer.

The **Select** statement causes the statements in the select body to be scanned by the parser as it attempts to find a **case** statement. When a **case** statement is found, the expression following the **case** statement is evaluated, and if the expression evaluates to the same value as the expression following the **Select** statement, execution of the following statements is initiated. The **EndSelect** statement terminates the **Select** structure.

If a matching **case** expression was found, and execution was initiated, the following statements will affect continued execution:

Break	Terminates the **Select** structure and transfers control to the statement following the next matching **EndSelect**.
Continue	Stops execution and resumes scanning for a **case** statement.
Case	Ignored. Treated as a comment.
EndSelect	Terminates the **Select** structure and transfers control to the next statement.

Note: **Switch** and **Select** may be used interchangeably. They are synonyms for the same statement.

EndSwitch, **EndSelect**, "**End Switch**", and "**End Select**" may be used interchangeably.

Example:

```
response=AskLine("Select", "Enter a number between one and three", 1)
Select response
   case 1
      Message("Select", "Case 1 entered")
      break
   case 2
      Message("Select", "Case 2 entered")
      break
   case 3
      Message("Select", "Case 3 entered")
      break
   case response    ; default case
      Message("Select", "Default case entered")
      break
End Select
```

See Also:

If, For, GoSub, While

Sends keystrokes to the currently active window.

Syntax:

SendKey (char-string)

Parameters:

(s) char-string string of regular and/or special characters.

Returns:

(i) always 0.

Note1: SendKey will send keystrokes to the currently active window. For many applications, the related functions, **SendKeysChild**, **SendKeysTo** or **SendMenusTo** may be better alternatives.

This function is used to send keystrokes to the active window, just as if they had been entered from the keyboard. Any alphanumeric character, and most punctuation marks and other symbols which appear on the keyboard, may be sent simply by placing it in the "char-string". In addition, the following special characters, enclosed in "curly" braces, may be placed in "char-string" to send the corresponding special characters:

Key	SendKey equivalent	
~	**{~}**	; This is how to send a ~
!	**{!}**	; This is how to send a !
^	**{^}**	; This is how to send a ^
+	**{+}**	; This is how to send a +
{	**{ { }**	; This is how to send a {
}	**{ } }**	; This is how to send a }
Alt	**{ALT}**	
Backspace	**{BACKSPACE}** or **{BS}**	
Clear	**{CLEAR}**	
Delete	**{DELETE}** or **{DEL}**	
Down Arrow	**{DOWN}**	
End	**{END}**	
Enter	**{ENTER}** or **~**	
Escape	**{ESCAPE}** or **{ESC}**	
F1 through F16	**{F1}** through **{F16}**	
Help	**{HELP}**	
Home	**{HOME}**	
Insert	**{INSERT}** or **{INS}**	
Left Arrow	**{LEFT}**	
Page Down	**{PGDN}**	
Page Up	**{PGUP}**	
Right Arrow	**{RIGHT}**	
Space	**{SPACE}** or **{SP}**	
Tab	**{TAB}**	
Up Arrow	**{UP}**	

To enter an **Alt**, **Control**, or **Shift** key combination, precede the desired character with one or more of the following symbols:

Alt	**!**
Control	**^**

Shift	**+**

To enter **Alt**-**S**:
```
SendKey("!s")
```

Note2: You should, in general, use lower-case letters to represent Alt-key combinations and other menu shortcut keys as that is the normal keys used when typing to application. For example "!fo" is interpreted as Alt-f-o, as one might expect. However "!FO" is interpreted as Alt-Shift-f-o, which is not a normal keystroke sequence.

To enter **Ctrl**-**Shift**-**F7**:
```
SendKey("^+{F7}")
```

You may also repeat a key by enclosing it in braces, followed by a space and the total number of repetitions desired.

To type 20 asterisks:
```
SendKey("{* 20}")
```

To move the cursor down 8 lines:
```
SendKey("{DOWN 8}")
```

Examples:

```
; start Notepad, and use *.* for filenames
Run("notepad.exe", "")
SendKey("!fo*.*~")
```

In those cases where you have an application which can accept text pasted in from the clipboard, it will often be more efficient to use the **ClipGet** function:

```
Run("notepad.exe", "")
crlf = StrCat(Num2Char(13), Num2Char(10))
; copy some text to the clipboard
ClipPut("Dear Sirs:%crlf%%crlf%")
; paste the text into Notepad (using Ctrl-v)
SendKey("^v")
```

A **WIL** program cannot send keystrokes to its own **WIL** Interpreter window.

Note3: If your **SendKey** statement doesn't seem to be working (e.g., all you get are beeping noises), you may need to place a **WinActivate** statement before the **SendKey** statement to insure that you are sending the keystrokes to the correct window, or you may try using the **SendKeysTo** or **SendKeysChild** function.

Note4: When sending keystrokes to a DOS box, the DOS box must be in a window (Not Full Screen). Most keystrokes can be sent to a full screen DOS box, however, **SendKey** can only send the ENTER key to a Windowed DOS Box.

See Also:

SendKeysTo, SendKeysChild, SendMenusTo, KeyToggleSet, SnapShot, WinActivate

Sends keystrokes to the active child window.

Syntax:

SendKeysChild(main-windowname, child windowname, sendkey string)

Parameters:

(s) main- windowname the initial part of, or an entire parent window name.
(s) child-windowname the initial part of, or an entire child window name.
(s) sendkey string string of regular and/or special characters.

Returns:

(i) always 0

Use this function to send keystrokes to a particular child window. This function is similar to **SendKey**, but the desired parent and child windows will be activated before sending any keys in lieu of using **WinActivChild**. Consequently, a previous **WinActivChild** command will be overridden by this function. See the **SendKey** function for a description of the "sendkey string".

Note: "main-windowname" and "child-windowname" are the initial parts of their respective window names, and may be complete window names. They are case-sensitive. You should specify enough characters so that the window names will match only one existing window of its type. If a windowname matches more than one window, the most recently accessed window which it matches will be used.

Example:

```
; Start Windows File Manager - the hard way
; This code activates Program Manager, then
; activates the "Main" child window.  Sending an
; "f" should (hopefully) activate the File Manager
; icon.  The Enter key (abbreviated as  ~  ) runs it.
SendKeysChild("Program Manager", "Main", "f~")
```

See Also:

SendKeysTo, SendKey, SendMenusTo, KeyToggleSet, SnapShot, WinActivate

Sends keystrokes to a "parent-windowname".

Syntax:

SendKeysTo(parent-windowname, sendkey string)

Parameters:

(s) parent-windowname the initial part of, or an entire parent window name.
(s) sendkey string string of regular and /or special characters.

Returns:

(i) always 0.

Use this function to send keystrokes to a particular window. This function is similar to **SendKey**, but the correct "parent-windowname" will be activated before sending any keys in lieu of using **WinActivate**. Consequently, a previous **WinActivate** command will be overridden by this function. See the **SendKey** function for a description of the "sendkey string".

Note: "parent-windowname" is the initial part of a window name, and may be a complete window name. It is case-sensitive. You should specify enough characters so that "windowname" matches only one existing window. If it matches more than one window, the most recently accessed window which it matches will be used.

Example:

```
run("notepad.exe","")
SendKeysTo("Notepad", "aBcDeF")
```

See Also:

SendKey, SendKeysChild, SendMenusTo, KeyToggleSet, SnapShot, WinActivate

Activates a window and sends a specified menu option.

Syntax:

SendMenusTo(windowname, menuname)

Parameters:

(s) windowname the initial part of, or an entire parent window name.
(s) menuname windows message to be posted or performed.

Returns:

(i) always 0.

Use this function to access drop down menus on a window. The function activates the "windowname" application window, searches its menus and sends the specified windows message for the menu operation.

To construct the "menuname" parameter simply string together all the menu options selected to access the desired function. All punctuation and special characters are ignored, as well as any possible "hotkeys" used to access the function via the keyboard. For example, most Windows applications have a "File" menu and an "Open" menu. To construct the "menu name" parameter, simply string together the words, making "FileOpen", or for better readability use "File Open" - the spaces are ignored.

Note: "windowname" is the initial part of a window name, and may be a complete window name. It is case-sensitive. You should specify enough characters so that "windowname" matches only one existing window. If it matches more than one window, the most recently accessed window which it matches will be used.

Example:

```
Run("notepad.exe", "c:\config.sys")
SendMenusTo("Notepad", "Edit Select All")
SendMenusTo("Notepad",  "Edit Copy")
```

See Also:

SendKeysTo, SendKeysChild, SendKey, KeyToggleSet, SnapShot

Runs a program via the Windows ShellExecute command

Syntax:

ShellExecute(program-name, params, directory, display mode, operation)

Parameters:

(s) program-name	the name of the desired .EXE, .COM, .PIF, .BAT file or a data file.
(s) params	optional parameters as required by the application.
(s) directory	current working directory (if applicable).
(i) display mode	@NORMAL, @ICON, @ZOOMED, @HIDDEN; or 0 for the default mode.
(i) operation	operation to perform on the specified file.

Returns:

(i)	@TRUE on success; @FALSE on failure.

This function uses the Windows ShellExecute API to launch the specified file. The similar RunShell function also uses the ShellExecute API in the 16-bit version, but uses the CreateProcess API in the 32-bit version. Note that RunShell has a "wait" parameter, while this function does not.

"operation" is the operation to perform on the file ("Open", "Print", etc.), which may or may not correspond to an available "verb" on the context menu for the file. This parameter may be case-sensitive. Specify a blank string "" for the file's default operation.

Note: If you use this function to launch a shortcut, and the shortcut points to an invalid path, Windows will display a "Missing Shortcut" dialog box asking if you wish to update the shortcut. This would not be suitable to use in unattended operation. Instead, you could use one of the Run.. functions to launch the shortcut, which would return an error #1932 if the shortcut could not be launched, and this error could be trapped using the ErrorMode function.

Example:

```
; launches a shortcut to a "Dial-Up Networking" item on the desktop
ShellExecute("d:\win95\desktop\netcom.lnk", "", "", @NORMAL, "")
WinWaitClose("Connect To")
```

See Also:

RunShell

Modifies the specified shortcut file.

Syntax:

ShortcutEdit(link-name, target, params, start-dir, show-mode)

Parameters:

(s) link-name	the name of shortcut .LNK file to be created.
(s) target	file or directory name which "link-name" will point to.
(s) params	optional command-line parameters for "target"
(s) start-dir	"Start in" directory for "target".
(i) show-mode	"Run" mode for "target": **@NORMAL**, **@ZOOMED**, or **@ICON**.

Returns:

(i)	**@TRUE** if the shortcut was successfully modified; **@FALSE** if it wasn't.

See **ShortcutMake** for further information on these parameters.

Example:

```
DirChange("C:\Win95\Desktop")
ShortcutMake("system~1.LNK", "c:\Program Files\winbatch\system~1.wbt", "", "",
@NORMAL)
ShortcutEdit("system~1.LNK", "", "", "c:\Win95\desktop", @NORMAL)
```

See Also:

ShortCutExtra, ShortcutInfo, ShortcutMake

Sets additional information for the specified shortcut file.

Syntax:

ShortcutExtra(link-name, description, hotkey, icon-file, icon-index)

Parameters:

(s) link-name	the name of shortcut .LNK file to be modified.
(s) description	the internal description for the shortcut.
(s) hotkey	the "shortcut key" to be assigned to the shortcut.
(s) icon-file	a file containing an icon to be used for the shortcut, with optional path.
(i) icon-index	the 0-based index position of the desired icon within "icon-file".

Returns:

(i)	**@TRUE** if the shortcut was successfully modified; **@FALSE** if it wasn't.

The "description" parameter only sets an internal description, which is not actually displayed anywhere.

If "hotkey" is not a blank string (""), it specifies the hotkey ("shortcut key") for the shortcut. This can be an alphanumeric or special character (see **SendKey** for a list of special key characters), optionally preceded by one or more of the following modifiers:

!	(Alt)
^	(Control)
+	(Shift)

Note that this function can be used to set hotkeys which would be impossible to set from within the shortcut properties dialog in Explorer.

"Icon-file" can be used to specify an .EXE (or .DLL) file or an .ICO file containing an icon which you want to be used for the shortcut. If "icon-file" specifies an .EXE (or .DLL) file (which can contain multiple icons), then "icon-index" can be used to specify the offset of a particular icon within "icon-file", where 0 indicates the first icon in the file, 1 indicates the second icon, etc. If "icon-file" specifies an .ICO file, then "icon-index" should be 0.

You can specify a blank string ("") for "icon-file", and 0 for "icon-index", to use the default icon.

Example:

```
DirChange("C:\Win95\Desktop")
ShortcutMake("system~1.LNK", "c:\Program Files\winbatch\system~1.wbt","", "c:\
Program Files\Winbatch", @NORMAL)
ShortcutExtra("system~1.LNK", "WinBatch Version Info", "^!j", "", 0)
```

See Also:

ShortcutEdit, ShortcutInfo, ShortcutMake

Returns information on the specified shortcut file.

Syntax:

ShortcutInfo(link-name)

Parameters:

(s) link-name	the name of shortcut .LNK file.

Returns:

(s)	a TAB delimited list of information on the shortcut file.

ShortcutInfo returns a TAB-delimited list containing the following items (some of which may be blank):

target	file or directory name which the shortcut points to.
params	command-line parameters for "target".
start-dir	"Start in" directory for "target".
show-mode	"Run" mode for "target": 1 (**@ICON**), 2 (**@NORMAL**), or 3 (**@ZOOMED**).
description	the internal description for the shortcut.
hotkey	the "shortcut key" for the shortcut.
icon-file	the name of the icon file being used by the shortcut.
icon-index	the 0-based index position within "icon-file" of the icon being used.

Example:

```
DirChange("C:\Win95\Desktop")
ShortcutMake("system~1.LNK", "c:\Program Files\winbatch\system~1.wbt", "", "",
@NORMAL)
ShortcutExtra("system~1.LNK", "WinBatch Version Info", "^!j", "", 0)
info=ShortcutInfo("system~1.LNK")

target=    ItemExtract(1, info, @tab)
params=    ItemExtract(2, info, @tab)
startdir=  ItemExtract(3, info, @tab)
showmode=  ItemExtract(4, info, @tab)
desc=      ItemExtract(5, info, @tab)
hotkey=    ItemExtract(6, info, @tab)
iconfile=  ItemExtract(7, info, @tab)
iconindex= ItemExtract(8, info, @tab)

editinfo=StrCat("filename=",filename,@cr,"params=",params,@cr,"workdir=",workdir,@cr
,"showmode=",showmode)
extrainfo=StrCat("desc=",desc,@cr,"hotkey=",hotkey,@cr,"iconpath=",iconpath,@cr,"ico
nindex=",iconindex)
Message("ShortcutInfo Syntax", StrCat(editinfo,@cr, extrainfo))
```

See Also:

ShortcutEdit, ShortCutExtra, ShortcutMake

Creates a Windows 95 shortcut for the specified filename or directory.

Syntax:

ShortcutMake(link-name, target, params, start-dir, show-mode)

Parameters:

(s) link-name	the name of shortcut .LNK file to be created.
(s) target	file or directory name which "link-name" will point to.
(s) params	optional command-line parameters for "target".
(s) start-dir	"Start in" directory for "target".
(i) show-mode	"Run" mode for "target": 1 (**@ICON**), 2 (**@NORMAL**), or 3 (**@ZOOMED**).

Returns:

(i)	**@TRUE** if the shortcut was successfully created; **@FALSE** if it wasn't.

This function can be used to create a shortcut file which points to a filename or to a directory.

"Params" and "start-dir" are optional, and can be set to blank strings (""). "Show-mode" is optional, and can be set to 0.

If "target" specifies a directory, the other parameters are meaningless.

Example:

```
DirChange("C:\Win95\Desktop")
ShortcutMake("system~1.LNK", "c:\Program Files\winbatch\system~1.wbt","", "c:\
Program Files\Winbatch", @NORMAL)
```

See Also:

ShortcutEdit, ShortCutExtra, ShortcutInfo,

Calculates the sine.

Syntax:

Sin(*x*)

Parameters:

(f) *x*	angle in radians.

Returns:

(f)	The **Sin** function returns the sine of *x*.

Calculates the sine. If the passed parameter is large, a loss in significance in the result or significance error may occur.

Note: To convert an angle measured in degrees to radians, simply multiply by the constant **@Deg2Rad**.

Example:

```
real=AskLine("Sine", "Enter an angle between 0 and 360", "45")
answer=sin(real * @Deg2Rad)
Message("Sine of %real% degrees is", answer)
```

See Also:

Acos, Asin, Atan, Cos, Tan, Sinh

Calculates the hyperbolic sine.

Syntax:

Sinh(*x*)

Parameters:

(f) *x*	angle in radians.

Returns:

(f)	the hyperbolic sine of x.

Calculates the hyperbolic sine. If the passed parameter is large, a loss in significance in the result or significance error may occur.

Note: To convert an angle measured in degrees to radians, simply multiply by the constant **@Deg2Rad**.

Example:

```
real=AskLine("SinH", "Enter an angle between 0 and 360", "45")
answer=sinh(real * @Deg2Rad)
Message("Hyperbolic Sine of %real% degrees is", answer)
```

See Also:

Acos, Asin, Atan, Cos, Cosh, Sin, Tan, Tanh

Takes a bitmap snapshot of the screen and pastes it to the clipboard.

Syntax:

SnapShot (request#)

Parameters:

(i) request# see below.

Returns:

(i) always 0.

Req#	Meaning
0	Take snapshot of entire screen
1	Take snapshot of client area of parent window of active window
2	Take snapshot of entire area of parent window of active window
3	Take snapshot of client area of active window
4	Take snapshot of entire area of active window

Example:

```
SnapShot(2)
```

See Also:

ClipPut

Turns sounds on or off.

Syntax:

Sounds (request#)

Parameters:

(i) request# see below.

Returns:

(i) previous Sound setting.

If Windows multimedia sound extensions are present, this function turns sounds made by the WIL Interpreter on or off. Specify a request# of 0 to turn sounds off, and a request# of 1 to turn them on.

By default, the WIL Interpreter makes noise. You can override this by entering:

Sounds=0

in the [Main] section of the WWWBATCH.INI file.

Example:

```
Sounds(0)
```

See Also:

Beep, PlayMedia, PlayMidi, PlayWaveForm

Calculates the square root.

Syntax:

Sqrt(x)

Parameters:

(f) *x*	floating point number.

Returns:

(f)	the square root result.

The **Sqrt** function calculates the square root of the passed parameter. It the passed parameter is negative, a domain error occurs.

Example:

```
real=AskLine("Square Root", "Enter a positive number", "269")
answer=sqrt(real)
Message("Square root of %real% is", answer)
```

See Also:

Operator ** (the power operator)

Concatenates two or more strings.

Syntax:

StrCat (string1, string2[, ..., stringN])

Parameters:

(s) string1, etc. at least two strings you want to concatenate.

Returns:

(s) concatenation of the entire list of input strings.

Use this command to stick character strings together, or to format display messages. Although the substitution feature of the WIL (putting percent signs on both side of a variable name) is a little quicker and easier than the strcat function, substitution should only be used for simple, short cases. Use **StrCat** when concatenating large strings.

Example:

```
user = AskLine("Login", "Your Name:", "")
msg = StrCat("Hi, ", user)
Message("Login", msg)

; note that this is the same as the second line above:
msg = "Hi, %user%"
```

See Also:

StrFill, StrFix, StrTrim

Counts the number of characters in a string.

Syntax:

StrCharCount(string)

Parameters:

(s) string	any text string.

Returns:

(i)	the number of characters in a string,

Use this function to count the number of characters in a string. This function is useful when dealing with double-byte character sets such as those containing Kanji characters. When using single byte character sets, such as those found in English versions of Windows, this function is identical to the **StrLen** function.

Example:

```
name = AskLine("Data Entry", "Please enter your name")
len = StrLen(name)
chars = StrCharCount(name)
Message(name, "Is %len% bytes long and %@CRLF% has %chars% characters")
```

See Also:

StrLen, StrScan, StrReplace, StrFill

Compares two strings.

Syntax:

StrCmp (string1, string2)

Parameters:

(s) string1, string2 strings to compare.

Returns:

(i) -1, 0, or 1; depending on whether **string1** is less than, equal to, or greater than **string2**, respectively.

Use this command to determine whether two strings are equal, or which precedes the other in an ANSI sorting sequence.

Note: This command has been included for semantic completeness. The relational operators **>**, **>=**, **==**, **!=**, **<=**, and **<** provide the same capability.

Example:

```
a = AskLine("STRCMP", "Enter a test line", "")
b = AskLine("STRCMP", "Enter another test line", "")
c = StrCmp(a, b)
c = c + 1
d = StrSub("less than   equal to    greater than", (c * 12)+ 1, 12)
; Note that above string is grouped into 12-character
; chunks.
; Desired chunk is removed with the StrSub statement.
Message("STRCMP", "%a% is %d% %b%")
```

See Also:

StriCmp, StrIndex, StrLen, StrScan, StrSub

Creates a string filled with a series of characters.

Syntax:

StrFill (filler, length)

Parameters:

(s) filler	a string to be repeated to create the return string. If the filler string is null, spaces will be used instead.
(i) length	the length of the desired string.

Returns:

(s)	character string.

Use this function to create a string consisting of multiple copies of the filler string concatenated together.

Example:

```
Message("My Stars", StrFill("*", 30))
```

which produces:

See Also:

StrCat, StrFix, StrLen, StrTrim

Pads or truncates a string to a fixed length using bytes.

Syntax:

StrFix (base-string, pad-string, length)

Parameters:

(s) base-string	string to be adjusted to a fixed length.
(s) pad-string	appended to **base-string** if needed to fill out the desired length. If **pad-string** is null, spaces are used instead.
(i) length	length of the desired string.

Returns:

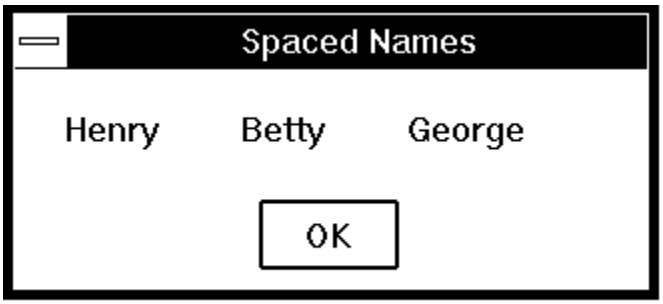
(s)	fixed size string.

This function "fixes" the length of a string, either by truncating it on the right, or by appending enough copies of pad-string to achieve the desired length.

Example:

```
a = StrFix("Henry", " ", 15)
b = StrFix("Betty", " ", 15)
c = StrFix("George", " ", 15)
Message("Spaced Names", StrCat(a, b, c))
```

which produces:



See Also:

StrFill, StrLen, StrTrim

Pads or Truncates a string to a fixed length using characters.

Syntax:

StrFixChars(base-string, pad-string, length)

Parameters:

(s) base-string	string to be adjusted to a fixed length.
(s) pad-string	appended to **base-string** if needed to fill out the desired length. If **pad-string** is null, spaces are used instead.
(i) length	character count of the desired string.

Returns:

(s)	fixed size string.

This function is similar to **StrFix** in that it "fixes" the length of a string, either by truncating it on the right, or by appending enough copies of pad-string to achieve the desired length. However, **StrFixChars** works based on characters rather than bytes. This function is useful when dealing with double-byte character sets such as those containing Kanji characters. When using single byte character sets, such as those found in English versions of Windows, this function is identical to the **StrFix** function.

Example:

```
a = StrFixChars("Henry", " ", 15)
b = StrFixChars("Betty", " ", 15)
c = StrFixChars("George", " ", 15)
Message("Spaced Names", StrCat(a, b, c))
```

See Also:

StrFix, StrFill

Compares two strings without regard to case.

Syntax:

StriCmp (string1, string2)

Parameters:

(s) string1, string2 strings to compare.

Returns:

(i) -1, 0, or 1; depending on whether **string1** is less than, equal to, or greater than **string2**, respectively.

Use this command to determine whether two strings are equal, or which precedes the other in an ANSI sorting sequence, when case is ignored.

Example:

```
a = AskLine("STRICMP", "Enter a test line", "")
b = AskLine("STRICMP", "Enter another test line", "")
c = StriCmp(a, b)
c = c + 1
d = StrSub("less than   equal to    greater than", (c * 12)+ 1, 12)
; Note that above string is grouped into 12-character
; chunks.
; Desired chunk is removed with the StrSub statement.
Message("STRICMP", "%a% is %d% %b%")
```

See Also:

StrCmp, StrIndex, StrLen, StrScan, StrSub

Searches a string for a sub-string.

Syntax:

StrIndex (string, sub-string, start, direction)

Parameters:

(s) string	the string to be searched for a sub-string.
(s) sub-string	the string to look for within the main string.
(i) start	the position in the main string to begin search. The first character of a string is position **1**.
(i) direction	the search direction. **@FWDSCAN** searches forward, while **@BACKSCAN** searches backwards.

Returns:

(i) position of **sub-string** within **string**, or 0 if not found.

This function searches for a sub-string within a "target" string. Starting at the "start" position, it goes forward or backward depending on the value of the "direction" parameter. It stops when it finds the "sub-string" within the "target" string, and returns its position.

A start position of **0** has special meaning depending on which direction you are scanning. For **forward** searches, zero indicates the search should start at the *beginning* of the string. For **reverse** searches, zero causes it to start at the *end* of the string.

Example:

```
instr = AskLine("STRINDEX", "Type a sentence:", "")
start = 1
daend = StrIndex(instr, " ", start, @FWDSCAN)
If daend == 0
     Message("Sorry...", "No spaces found")
else
     a = StrCat("First word is: ", StrSub(instr,    start, daend - 1))
     Message("STRINDEX", a)
endif
```

See Also:

StrLen, StrScan, StrSub

Provides the length of a string.

Syntax:

StrLen (string)

Parameters:

(s) string any text string.

Returns:

(i) length of string.

Use this command to determine the length of a string variable or expression.

Example:

```
myfile = AskLine("Filename", "File to process:", "")
namlen = StrLen(myfile)
If namlen > 13
     Message("Error", "Filename too long!")
endif
```

See Also:

StrFill, StrFix, StrIndex, StrScan, StrTrim

Converts a string to lowercase.

Syntax:

StrLower (string)

Parameters:

(s) string any text string.

Returns:

(s) lowercase string.

Use this command to convert a text string to lower case.

Example:

```
a = AskLine("STRLOWER", "Enter text", "")
b = StrLower(a)
Message(a, b)
```

See Also:

StriCmp, StrUpper

Replaces all occurrences of a sub-string with another.

Syntax:

StrReplace (string, old, new)

Parameters:

(s) string	string in which to search.
(s) old	target sub-string.
(s) new	replacement sub-string.

Returns:

(s)	updated string, with **old** replaced by **new**.

StrReplace scans the "string", searching for occurrences of "old" and replacing each occurrence with "new".

Example:

```
; Copy all INI files to clipboard
a = FileItemize("*.ini")
crlf = StrCat(Num2Char(13), Num2Char(10))
b = StrReplace(a, " ", crlf)
ClipPut(b)
```

See Also:

StrIndex, StrScan, StrSub

Searches string for occurrence of delimiters.

Syntax:

StrScan (string, delimiters, start, direction)

Parameters:

(s) string	the string that is to be searched.
(s) delimiters	a string of delimiters to search for within **string**.
(i) start	the position in the main string to begin search. The first character of a string is position 1.
(i) direction	the search direction. **@FWDSCAN** searches forward, while **@BACKSCAN** searches backwards.

Returns:

(i) position of delimiter in string, or 0 if not found.

This function searches for delimiters within a target "string". Starting at the "start" position, it goes forward or backward depending on the value of the "direction" parameter. It stops when it finds any one of the characters in the "delimiters" string within the target "string".

Example:

```
; Parse a string with multiple delimiters into standard param format
thestr = "123,456.789:abc"
length=StrLen(thestr)
start = 1
count=0
while @TRUE
     finish = StrScan(thestr, ",.:", start, @FWDSCAN)
     If finish == 0
            break
     else
            count = count+1
            param%count% = StrSub(thestr, start, finish -  start)
            start=finish+1
            Message("Parameter number %count% is", param%count%)
            If finish == length then Break
     endif
endwhile
If start <= length
     finish = length+1
     count = count+1
     param%count% = StrSub(thestr, start, finish -  start)
     Message("Parameter number %count% is", param%count%)
endif
param0 = count
Message("Parameter count is",param0)
```

See Also:

StrLen, StrSub

Extracts a sub-string out of an existing string.

Syntax:

StrSub (string, start, length)

Parameters:

(s) string	the string from which the sub-string is to be extracted.
(i) start	character position within **string** where the sub-string starts. (The first character of the string is at position 1).
(i) length	length of desired sub-string. If you specify a length of zero it will return a null string. If you specify a length of -1 it will extract the rest of the string.

Returns:

(s)	sub-string of parameter string.

This function extracts a sub-string from within a "target" string. Starting at the "start" position, it copies up to "length" characters into the sub-string.

Example:

```
a = "My dog has fleas"
animal = StrSub(a, 4, 3)
Message("STRSUB", "My animal is a %animal%")
```

See Also:

StrLen, StrScan

Removes leading and trailing blanks from a character string.

Syntax:

StrTrim (string)

Parameters:

(s) string a string with unwanted spaces at the beginning and/or end.

Returns:

(s) string devoid of leading and trailing spaces.

This function removes spaces and tab characters from the beginning and end of a text string.

Example:

```
mydata = ""
while mydata != "exit"
     mydata = AskLine("STRTRIM", "Type stuff ('exit' quits)", "")
     mydata = StrTrim(mydata)
     Display(4,"STRTRIM",">%mydata%<")
endwhile
exit
```

See Also:

StrFill, StrFix, StrLen

Converts a string to uppercase.

Syntax:

StrUpper (string)

Parameters:

(s) string any text string.

Returns:

(s) uppercase string.

Use this function to convert a text string to upper case.

Example:

```
a = AskLine("STRUPPER", "Enter text","")
b = StrUpper(a)
Message(a, b)
```

See Also:

StriCmp, StrLower

The **Switch** statement allows selection among multiple blocks of statements.

Syntax:

Switch expression
    case expression
        statements
        break
    case expression
        statements
        break
EndSwitch

Parameters:

(s) expression an expression that must evaluate to an integer.

The **Switch** statement allows selection among multiple blocks of statements, depending on the value of an expression. The expression must evaluate to an integer.

The **Switch** statement causes the statements in the switch body to be scanned by the parser as it attempts to find a **case** statement. When a **case** statement is found, the expression following the **case** statement is evaluated, and if the expression evaluates to the same value as the expression following the **Switch** statement, execution of the following statements is initiated. The **EndSwitch** statement terminates the **Switch** structure.

If a matching **case** expression was found, and execution was initiated, the following statements will affect continued execution:

Break	Terminates the **Switch** structure and transfers control to the statement following the next matching **EndSwitch**.
Continue	Stops execution and resumes scanning for a **case** statement.
Case	Ignored. Treated as a comment
EndSwitch	Terminates the **Switch** structure and transfers control to the next statement.

Note: **Switch** and **Select** may be used interchangeably. They are synonyms for the same statement.

EndSwitch, **EndSelect**, "**End Switch**", and "**End Select**" may be used interchangeably.

Example:

```
response=AskLine("Switch", "Enter a number between one and three", 1)
Switch response
   case 1
      Message("Switch", "Case 1 entered")
      break
   case 2
      Message("Switch",  "Case 2 entered")
      break
   case 3
      Message("Switch",  "Case 3 entered")
      break
   case response    ; default case
      Message("Switch", "Default case entered")
      break
EndSwitch
```

See Also:

If, For, GoSub, While

Calculates the tangent.

Syntax:

Tan(*x*)

Parameters:

(f) *x*	angle in radians.

Returns:

(f)	the **Tan** function returns the tangent of *x*..

Calculates the tangent. If *x* is large, a loss in significance in the result or significance error may occur.
Note: To convert an angle measured in degrees to radians, simply multiply by the constant **@Deg2Rad**.

Example:

```
real=AskLine("Tangent", "Enter an angle between 0 and 360", "45")
answer=tan(real * @Deg2Rad)
Message("Tangent of %real% degrees is", answer)
```

See Also:

Acos, Asin, Atan, Cos, Sin, Tanh

Calculates the hyperbolic tangent.

Syntax:

Tanh(*x*)

Parameters:

(f) *x* angle in radians.

Returns:

(f) the **Tanh** function returns the hyperbolic tangent of *x*.

Calculates the hyperbolic tangent. There is no error value.

Note: To convert an angle measured in degrees to radians, simply multiply by the constant **@Deg2Rad**.

Example:

```
real=AskLine("TanH",  "Enter an angle between 0 and 360", "45")
(real * @Deg2Rad)
Message("Hyperbolic Tangent of %real% degrees is", answer)
```

See Also:

Acos, Asin, Atan, Cos, Cosh, Sin, Sinh, Tan

Conditionally ends a WIL program.

Syntax:

Terminate (expression, title, message)

Parameters:

(s) expression	any logical expression.
(s) title	the title of a message box to be displayed before termination.
(s) message	the message in the message box.

Returns:

(i)	always 1.

This command ends processing for the WIL program if "expression" is nonzero. Note that many functions return **@TRUE** (**1**) or **@FALSE** (**0**), which you can use to decide whether to cancel a menu item.

If either "title" or "message" contains a string, a message box with a title and a message is displayed before exiting.

Examples:

```
; unconditional termination w/o message box (same as Exit)
Terminate(@TRUE, "", "")

; basically a no-op:
Terminate(@FALSE, "", "This will never terminate")

; exits with message if variable is less than zero:
Terminate(a < 0, "Error", "Cannot use negative numbers")

; exits w/o message if answer isn't "YES":
Terminate(answer != "YES", "", "")
```

See Also:

Display, Exit, Message, Pause

Displays a file in a list box on the screen and returns the selected line.

Note: This function has been replaced by **AskFileText**, but will still work in this version for compatibility reasons. See **AskFileText**.

Syntax:

TextBox (title, filename)

Parameters:

(s) title	list box title.
(s) filename	file containing contents of list box.

Returns:

(s)	highlighted string, if any.

This function loads a file into a Windows list box and displays the list box to the user. **TextBox** has two primary uses: First, it can be used to display multi-line messages to the user. In addition, because of its ability to return a selected line, it may be used as a multiple choice question box. The line highlighted by the user (if any) will be returned to the program. If the user does not make a selection, a null string (**""**) is returned.

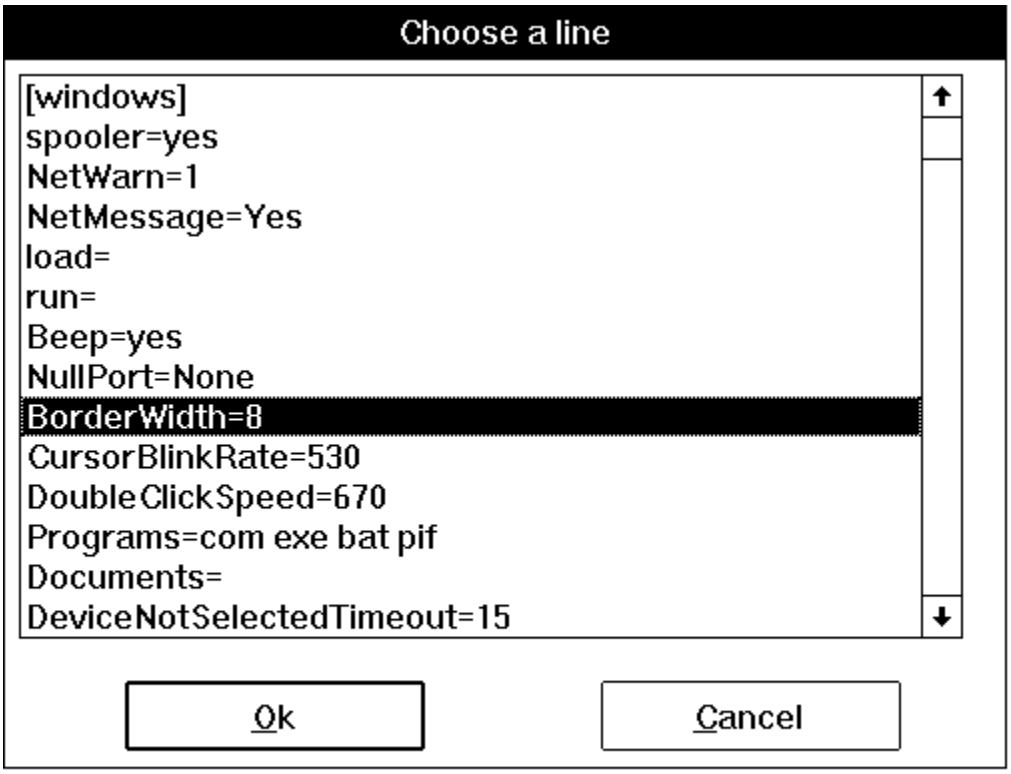
If disk drive and path are not part of the filename, the current directory will be examined first, and then the DOS path will be searched to find the desired file.

TextBox is like **TextBoxSort**, except that with **TextBoxSort** the items in the displayed box are sorted and with **TextBox** they are left unsorted.

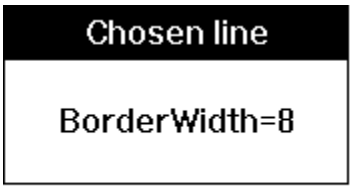
Example:

```
; Display WIN.INI
a = TextBox("Choose a line", "c:\windows\win.ini")
Display(3, "Chosen line", a)
```

which produces (at least on *my* system):



and then:



See Also:

AskItemList

Displays a file in a sorted list box on the screen and returns the selected line.

Note: This function has been replaced by **AskFileText**, but will still work in this version for compatibility reasons. See **AskFileText**.

Syntax:

TextBoxSort (title, filename)

Parameters:

(s) title	list box title.
(s) filename	file containing contents of list box.

Returns:

(s) highlighted string, if any.

This function loads a file into a Windows list box, which is sorted alphabetically and displayed to the user. The line highlighted by the user (if any) will be returned to the program. If the user does not make a selection, a null string (**""**) is returned.

If disk drive and path are not part of the filename, the current directory will be examined first, and then the DOS path will be searched to find the desired file.

TextBoxSort is like **TextBox**, except that with **TextBoxSort** the items in the displayed box are sorted and with **TextBox** they are left unsorted.

Example:

```
a = TextBoxSort("Select a phone number", "phones.txt")
Display(3, "Selected number is", a)
```

See Also:

AskItemList

Allows the user to choose an item from an unsorted list box.

Note: This function has been replaced by **AskItemList**, but will still work in this version for compatibility reasons. See **AskItemList**.

Syntax:

TextSelect (title, list, delimiter)

Parameters:

(s) title	the title of dialog box to display.
(s) list	a string containing a list of items to choose from.
(s) delimiter	a string containing the character to act as delimiter between items in the list.

Returns:

(s)	the selected item.

This function displays a dialog box with a list box inside. This list box is filled with an unsorted list of items taken from a string you provide to the function.

Each item in the string must be separated (delimited) by a character, which you also pass to the function.

The user selects one of the items by either double-clicking on it, or single-clicking and pressing OK. The item is returned as a string.

If you create the list with the **FileItemize** or **DirItemize** functions you will be using a space-delimited list. **WinItemize**, however, creates a tab-delimited list of window titles since titles can have embedded blanks.

TextSelect is like **ItemSelect**, except that with **TextSelect** the displayed box is larger and the items in the box are not sorted alphabetically.

Example:

```
DirChange(DirWindows(0))
inifiles = FileItemize("*.ini")
ini = TextSelect("Select an INI file to edit", inifiles, " ")
If ini == "" Then Exit
RunZoom("notepad.exe", ini)
```

See Also:

AskLine, Dialog, DirItemize, FileItemize, AskItemList, AskFileText, WinItemize

Most, but not all, time functions use the "datetime" format, which is actually just a special form of a string or list. It looks like

"YY:MM:DD:HH:MM:SS"

For example, December 25, 1993, at 3:50:23 PM would be

"93:12:25:15:50:23"

YYs in the range 50 to 99 are assumed to be in the range 1950 to 1999. YYs in the range 00 to 49 are assumed to be in the range of 2000 to 2049.

If you need to compare two times in this format, use the **TimeDiffSecs** or **TimeDiffDays** function to compute the difference in the times and return a positive or negative result.

Adds two YmdHms variables

Syntax:

TimeAdd(datetime, datetime difference)

Parameters:

(s) datetime	a datetime using the format of YY:MM:DD:HH:MM:SS.
(s) datetime difference	a datetime to be added to the original using the same format.

Returns:

(s) datetime	a new datetime

Use this function to add a specified date/time to an original date/time. **TimeAdd** uses normalized conversion so a valid date/time will be returned.

Example:

```
Now=TimeYmdHms()
AddTime = "00:00:00:157:00:00"  ; 157 hours
Later=TimeAdd(Now, AddTime)
Message("157 hours from now will be", Later)
```

See Also:

FileTimeGet, TimeDate, TimeYmdHms, TimeDiffSecs, TimeDelay, TimeWait, TimeSubtract

Provides the current date and time in **a human-readable format**.
For computations with times and dates the **TimeYmdHms** function should be used instead.

Syntax:

TimeDate ( )

Parameters:

none

Returns:

(s) the current date and time.

This function will return the current date and time in a pre-formatted string. The format of the string depends on the current settings in the [Intl] section of the WIN.INI file:

ddd mm/dd/yy hh:mm:ss XX
ddd dd/mm/yy hh:mm:ss XX
ddd yy/mm/dd hh:mm:ss XX

Where:

ddd is day of the week (e.g. Mon)
mm is the month (e.g. 10)
dd is the day of the month (e.g. 23)
yy is the year (e.g. 90)
hh is the hours
mm is the minutes
ss is the seconds
XX is the Day/Night code (e.g. AM or PM)

Note1: Windows provides even more formatting options than this.

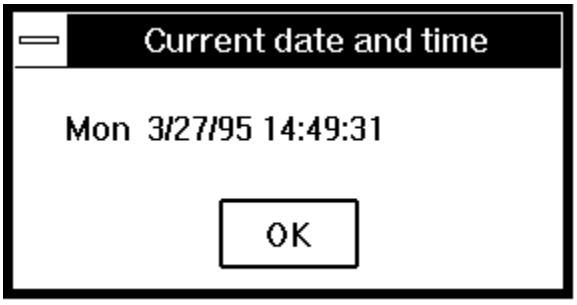
The WIN.INI file will be examined to determine which format to use. You can adjust the WIN.INI file via the **[Intl]** section of **Control Panel** if the format isn't what you prefer.

Note2: This function is the same as the **DateTime** function, which it replaces.

Example:

```
a=Timedate()
Message("Current date and time", a)
```

would produce:



See Also:

FileTimeGet, TimeAdd, TimeYmdHms, TimeDiffSecs, TimeDelay, TimeWait

Pauses execution for a specified amount of time.

Syntax:

TimeDelay(seconds)

Parameters:

(i) seconds integer seconds to delay (1 - 3600).

Returns:

(i) always 1.

This function causes the currently-executing WIL program to be suspended for the specified period of time. **Seconds** must be an integer between 1 and 3600. Smaller or larger numbers will be adjusted accordingly.

Example:

```
Message("Wait", "About 15 seconds")
TimeDelay(15)
Message("Hi", "I'm Baaaaaaack")
```

See Also:

TimeWait, Yield

Returns the difference in days between the two dates.

Syntax:

TimeDiffDays (datetime1, datetime2)

Parameters:

(s) datetime1 uses format YY:MM:DD.
(s) datetime2 uses format YY:MM:DD.

Returns:

(i) integer the difference in days between the two dates.

Use this function to return the difference in days between two dates. Hours, mins, secs, if specified, are ignored.

Example:

```
;Shopping days til Christmas
Now=TimeYmdHms()              ; Get current time
Year=ItemExtract(1, Now, ":")
Xmas=strcat(Year, ":12:25:00:00:00")
Shopping=TimeDiffDays(Xmas, Now)
if Shopping>0
     Message("Shopping Days to Christmas", Shopping)
else
     if Shopping<0
          Message("You missed it by", abs(Shopping))
     else
          Message("Merry Christmas", "And a Happy New year")
     endif
endif
```

See Also:

FileTimeGet, TimeDate, TimeAdd, TimeYmdHms, TimeDiffSecs, TimeDelay, TimeWait

Returns time difference in seconds between the two datetimes.

Syntax:

TimeDiffSecs(datetime1, datetime2)

Parameters:

(s) datetime1	use format YY:MM:DD:HH:MM:SS.
(s) datetime2	use format YY:MM:DD:HH:MM:SS.

Returns:

(i) integer	the difference in seconds between the two times.

Use this function to return the time difference between two datetimes. The time difference should not exceed 68 years or else an error will occur.

Example:

```
Now=TimeYmdHms()
Midnight=strcat(strsub(Now,1,9), "00:00:00")
Seconds=TimeDiffSecs(Now, Midnight)
Message("Seconds since midnight", Seconds)
```

See Also:

FileTimeGet, TimeDate, TimeAdd, TimeDiffDays, TimeYmdHms, TimeDelay, TimeWait

Returns the Julian day given a datetime.

Syntax:

TimeJulianDay(datetime)

Parameters:

(s) datetime use format YY:MM:DD.

Returns:

(i) the Julian day.

Use this function to return the Julian date given a datetime. The Julian date is often used in banking and similar calculations as it provides an easy way to compute the difference between two dates.

Example:

```
a=TimeYmdHms()
b=TimeJulianDay(a)
Message("Todays Julian date is", b)
```

See Also:

FileTimeGet, TimeDate, TimeAdd, TimeDiffDays, TimeYmdHms, TimeDelay, TimeWait, TimeJulToYmd

Returns the Julian day given a datetime.

Syntax:

TimeJulToYmd(julian-date)

Parameters:

(i) julian-date a Julian date.

Returns:

(s) the datetime corresponding to the specified Julian date.

This function converts the specified (numeric) Julian date value to a datetime in YmdHms format. The "Hms" portion of the returned YmdHms string will always be "00:00:00".

Example:

```
today = TimeYmdHms()
jul_today = TimeJulianDay(today)
jul_lastweek = jul_today - 7
lastweek = TimeJulToYmd(jul_lastweek)
FileTimeSet("myfile.log", lastweek)
```

See Also:

TimeJulianDay

Subtracts one YmdHms variable from another.

Syntax:

TimeSubtract(datetime, datetime difference)

Parameters:

(s) datetime a datetime using the format of YY:MM:DD:HH:MM:SS.
(s) datetime difference a datetime to be subtracted from the original using the same format

Returns:

(s)

Use this function to subtract a specified date/time from an original date/time. TimeSubtract uses normalized conversion so a valid date/time will be returned. "datetime difference" can not be larger than "datetime".

Example:

```
time_now = TimeYmdHms()
time_yesterday = TimeSubtract(time_now, "00:00:01:00:00:00")
FileTimeSet("myfile.log", time_yesterday)
```

See Also:

TimeAdd

Pauses execution and waits for the date/time to pass.

Syntax:

TimeWait (datetime)

Parameters:

(s) datetime use format YY:MM:DD:HH:MM:SS.

Returns:

(i) always 1.

Use this function to pause execution to wait for the datetime to pass. To wait for the next occurrence of the specified time, (i.e., today or tomorrow), specify "00:00:00" for the date.

Example:

```
a=TimeYmdHms()                  ; Gets Current Time
b=TimeAdd(a,"00:00:00:00:00:07")      ; Adds 7 seconds to current time
TimeWait(b)                     ; Waits for that time to occur
Display(3, "Time now should be", b)
```

See Also:

FileTimeGet, TimeDate, TimeAdd, TimeDiffDays, TimeDiffSecs, TimeYmdHms, TimeDelay

Returns current date/time in the datetime format.

Syntax:

TimeYmdHms ()

Parameters:

none

Returns:

(s)datetime uses format YY:MM:DD:HH:MM:SS.

Use this function to return the current date and time in the datetime format.

Example:

```
a=TimeYmdHms()
Message("Time is", a)
```

See Also:

FileTimeGet, TimeDate, TimeAdd, TimeDiffSecs, TimeDelay, TimeWait

Returns the version number of the parent program currently running.

Syntax:

Version ( )

Parameters:

(none)

Returns:

(s) parent program version number.

Use this function to determine the version of the parent program that is currently running.

Example:

```
ver = Version()
Message("Version number", ver)
```

See Also:

DOSVersion, Environment, VersionDLL WinVersion

Returns the version number of the WIL Interpreter currently running.

Syntax:

VersionDLL( )

Parameters:

(none)

Returns:

(s)	WIL Interpreter version number.

Use this function to determine the version of the WIL Interpreter that is currently running. It is useful to verify that a WIL program generated with the latest version of the language will operate properly on what may be a different machine with a different version of the WIL Interpreter installed.

Example:

```
ver = VersionDLL()
If ver < "2.0a"
     Message("Sorry", "WIL version 2.0a or higher required")
     Exit
endif
AddExtender("extender.dll")
```

See Also:

DOSVersion, Environment, Version, WinVersion

Waits for a specific key to be pressed.

Syntax:

WaitForKey (key1, key2, key3, key4, key5)

Parameters:

(s) key1 - key5 five keystrokes to wait for.

Returns:

(i) position of the selected keystroke (1-5).

WaitForKey requires five parameters, each of which represents a keystroke (refer to the **SendKey** function for a list of special keycodes which can be used). The WIL program will be suspended until one of the specified keys are pressed, at which time the **WaitForKey** function will return a number from 1 to 5, indicating the position of the "key" that was selected, and the program will continue. You can specify a null string ("") for one or more of the "key" parameters if you don't need to use all five.

WaitForKey will detect its keystrokes in most, but not all, Windows applications. Any keystroke that is pressed is also passed on to the underlying application.

Note: Certain keys, such as **{ALT}** and **{F10}** may not work with this function and should be avoided.

Example:

```
k = WaitForKey("{F11}", "{F12}", "{INSERT}", "", "")
switch k
     case 1
            Message("WaitForKey", "You pressed the F11 key")
            break
     case 2
            Message("WaitForKey", "You pressed the F12 key")
            break
     case 3
            Message("WaitForKey", "You pressed the Insert key")
            Break
endswitch
```

See Also:

IgnoreInput, IsKeyDown

Changes the Windows wallpaper.

Syntax:

WallPaper (bmp-name, tile)

Parameters:

(s) bmp-name	Name of the BMP wallpaper file.
(i) tile	**@TRUE** if wallpaper should be tiled; **@FALSE** if wallpaper should not be tiled.

Returns:

(i)	always 0.

This function immediately changes the Windows wallpaper. It can even be used for wallpaper "slide shows".

Example:

```
DirChange("c:\windows")
a = FileItemize("*.bmp")
a = AskItemList("Select New paper", a, " ", @unsorted, @single)
tile = @FALSE
If FileSize(a) < 40000 Then tile = @TRUE
Wallpaper(a, tile)
```

See Also:

WinParmSet

Conditionally and/or repeatedly executes a series of statements.

Syntax:

While termination-condition
series
of
statements
EndWhile

Parameters:

(s) termination-condition	an expression to be evaluated.
(s) series of statements	statements to be executed repeatedly until the condition following the **While** keyword evaluates to @FALSE.

The **While** statement causes a series of statements to be repeatedly executed until the termination condition evaluates to zero or @FALSE. The test of the termination condition takes place before each execution of the loop. A **While** loop executes zero or more times, depending on the termination condition.
The following statements affect continued execution:

Break	Terminates the **While** structure and transfers control to the statement following the next matching **EndWhile**.
Continue	Returns to the **While** statement and re-evaluates the expression.
EndWhile	Returns to the **While** statement and re-evaluates the expression.

Note: **EndWhile** and "**End While**" may be used interchangeably.

Example:

```
a=10
while a>5
    Display(3, "The value of a is now", a)
    a=a-1
endwhile
Message("The value of a should now be 5",a)
```

See Also:

If, For, GoSub, Switch, Select

Activates a previously running parent window.

Syntax:

WinActivate (partial-winname)

Parameters:

(s) partial-winname — either an initial portion of, or an entire window name. The most-recently used window whose title matches the name will be activated.

Returns:

(i) — **@TRUE** if a window was found to activate; **@FALSE** if no windows were found.

Use this function to activate windows for user input.
This function works only with top-level (parent) application windows.

Example:

```
Run("notepad.exe", "")
Run("clock.exe", "")
WinActivate("Notepad")
```

See Also:

WinActivChild, WinCloseNot, WinGetActive, WinName, WinShow

Activates a previously running child window.

Syntax:

WinActivChild(main windowname, child windowname)

Parameters:

(s) main windowname	the initial part of, or an entire parent window name.
(s) child windowname	the initial part of, or an entire child window name.

Returns:

(i)	**@TRUE** if the window was found to activate; **@FALSE** if no windows were found.

Use this function to activate a child window for user input. The most recently used window whose title matches the name will be activated.

Note: The partial window name you give must match the initial portion of the window name (as it appears in the title bar) exactly, including proper case (upper or lower) and punctuation. The parent window must exist or this function will return an error.

Example:

```
WinActivChild("Program Manager", "Main")
```

See Also:

WinActivate, WinGetActive, WinCloseNot, WinShow

Arranges, tiles, and/or stacks application windows.

Syntax:

WinArrange (style)

Parameters:

(i) style	one of the following: **@STACK**, **@TILE** (or **@ARRANGE**), **@ROWS**, or **@COLUMNS**.

Returns:

(i)	always 1.

Use this function to rearrange the open windows on the screen. (Any iconized programs are unaffected.) If there are more than four open windows and you specify **@ROWS**, or if there are more than three open windows and you specify **@COLUMNS**, **@TILE** will be used instead.
This function works only with top-level (parent) application windows.

Example:

```
; Reveal all windows
WinArrange(@TILE)
```

See Also:

IconArrange, WinHide, WinIconize, WinItemize, WinPlace, WinShow, WinZoom

Closes an open window.

Syntax:

WinClose (partial-winname)

Parameters:

(s) partial-winname	either an initial portion of, or an entire window name. The most-recently used window whose title matches the name will be closed.

Returns:

(i)	**@TRUE** if a window was found to close; **@FALSE** if no windows were found.

Use this function to close windows.
WinClose will not close the window which contains the currently executing WIL program. You can, however, use **EndSession** to end the current Windows session.
This function works only with top-level (parent) application windows.

Example:

```
Run("notepad.exe", "")
WinClose("Notepad")
```

See Also:

EndSession, WinCloseNot, WinHide, WinIconize, WinItemize, WinWaitClose

Closes all windows, except those provided as parameters.

Syntax:

WinCloseNot (partial-winname [, partial-winname...])

Parameters:

(s) partial-winname	either an initial portion of, or an entire window name. *Any* windows whose titles match the partial names will stay open.

Returns:

(i)	always 1.

Use this function to close all windows *except* those specifically listed in the parameter strings.
At least one partial window name must be given. A null-string parameter would match all windows, or, in other words, close nothing.
This function works only with top-level (parent) application windows.

Example:

```
; The statement below will close all windows except:
; 1) Program Manager (starts with 'Program')
; 2) Clock  (starts with 'Clo' )
WinCloseNot("Program", "Clo")
```

See Also:

EndSession, WinClose, WinHide, WinIconize, WinItemize, WinWaitClose

Returns the name of the executable file which created a specified window.

Syntax:

WinExeName (partial-winname)

Parameters:

(s) partial-winname the initial part of, or an entire, window name.

Returns:

(s) name of the EXE file.

Returns the name of the EXE file which created the first window found whose title matches "partial-winname".
"Partial-winname" is the initial part of a window name, and may be a complete window name. It is case-sensitive. You should specify enough characters so that "partial-winname" matches only one existing window.
A partial-winname of **""** (null string) specifies the window making the current call to the WIL Interpreter.
This function works only with top-level (parent) application windows.

Example:

```
prog = WinExeName("Notepad")
WinClose("Notepad")
Delay(5)
Run(prog, "")
```

See Also:

AppExist, AppWaitClose, Run, WinExist, WinGetActive, WinName

Tells if specified window exists.

Syntax:

WinExist (partial-winname)

Parameters:

(s) partial-winname the initial part of, or an entire, window name.

Returns:

(i) **@TRUE** if a matching window is found;
@FALSE if a matching window is not found.

Note: The partial window name you give must match the initial portion of the window name (as appears in the title bar) exactly, including proper case (upper or lower) and punctuation.
This function works only with top-level (parent) application windows.

Example:

```
if WinExist("Clock") == @FALSE Then RunIcon("Clock", "")
```

See Also:

AppExist, WinActivate, WinClose, WinExeName, WinExistChild, WinGetActive, WinItemize, WinState

Tells if specified child window exists.

Syntax:

WinExistChild ("partial-parent-windowname", "partial-child-windowname")

Parameters:

(s) partial-parent- windowname	the initial part of, or an entire parent window name.
(s) partial-child-windowname	the initial part or, or an entire child window name.

Returns:

(i)	**@TRUE** if a matching window is found; **@FALSE** if a matching window is not found.

Use this function to test for the existence of a child window.

Note: The partial window names you give must match the initial portion of the window name exactly, as it appears in the title bar, including proper case (upper or lower) and punctuation. The parent window must exist or this function will return an error.

Example:

```
ans=WinExistChild("Program Manager", "Main")
if ans==@TRUE then Message("Main Group", "exists in Program Manager")
            else Message("Main Group", "seems to have been deleted")
```

See Also:

AppExist, WinActivate, WinClose, WinExeName, WinGetActive, WinItemize, WinItemChild, WinState

Gets the title of the active window.

Syntax:

WinGetActive ( )

Parameters:

(none)

Returns:

(s) title of active window.

Use this function to determine which window is currently active.

Example:

```
currentwin = WinGetActive()
```

See Also:

WinActivate, WinExeName, WinItemize, WinName, WinPlaceGet, WinPosition, WinTitle

Calls a Windows help file.

Syntax:

WinHelp (help-file, function, keyword)

Parameters:

(s) help-file	name of the Windows help file, with an optional full path.
(s) function	function to perform (see below).
(s) keyword	keyword to look up in the help file (if applicable), or "".

Returns:

(i)	**@TRUE** if successful; **@FALSE** if unsuccessful.

This command can be used to perform several functions from a Windows help (.HLP) file. It requires that the Windows help program WINHELP.EXE be accessible. The desired function is indicated by the "function" parameter (which is not case-sensitive). The possible choices for "function" are:

"Contents"	Brings up the Contents page for the help file.
"Key"	Brings up help for the keyword specified by the "keyword" parameter. You must specify a complete keyword, and it must be spelled correctly. If there is more than one occurrence of "keyword" in the help file, a search box will be displayed which allow you to select the desired topic from the available choices.
"PartialKey"	Brings up help for the keyword specified by the "keyword" parameter. You may specify a partial keyword name: if it matches more than one keyword in the help file, a search box will be displayed which allow you to select the desired one from the available choices. You may also specify a null string ("") for "keyword", in which case you will get a search dialog containing all keywords in the help file.
"Command"	Executes the help macro specified by the "keyword" parameter.
"Quit"	Closes the WINHELP.EXE window, unless another application is still using it.
"HelpOnHelp"	Brings up the help file for the Windows help program (WINHELP.HLP).

For the functions which do not require a keyword (i.e., "Contents", "Quit", and "HelpOnHelp"), specify a null string ("") for the "keyword" parameter.

Example:

```
WinHelp("wil.hlp", "Key", "AskItemList")
```

Hides a window.

Syntax:

WinHide (partial-winname)

Parameters:

(s) partial-winname — either an initial portion of, or an entire window name. The most-recently used window whose title matches the name will be hidden.

Returns:

(i) **@TRUE** if a window was found to hide; **@FALSE** if no windows were found.

Use this function to hide windows. The programs are still running when they are hidden.
A partial-window name of **""** (null string) hides the window making the current call to the WIL Interpreter.
This function works only with top-level (parent) application windows.

Example:

```
Run("notepad.exe", "")
WinHide("Notepad")
Delay(3)
WinShow("Notepad")
```

See Also:

RunHide, WinClose, WinIconize, WinPlace

Iconizes a window.

Syntax:

WinIconize (partial-winname)

Parameters:

(s) partial-winname — either an initial portion of, or an entire window name. The most-recently used window whose title matches the name will be iconized.

Returns:

(i) **@TRUE** if a window was found to iconize; **@FALSE** if no windows were found.

Use this function to turn a window into an icon at the bottom of the screen.
A partial-window name of **""** (null string) iconizes the current WIL Interpreter window.
This function works only with top-level (parent) application windows.

Example:

```
Run("clock.exe", "")
WinIconize("Clo") ; partial window name used here
```

See Also:

IconArrange, RunIcon, WinClose, WinHide, WinPlace, WinShow, WinZoom

Returns a unique "Window ID" (pseudo-handle) for the specified window name.

Syntax:

WinIdGet(partial-winname)

Parameters:

(s) partial-winname the initial part of, or an entire, window name.

Returns:

(s) the unique "Window ID".

Use this function to obtain the unique "Window ID" (pseudo-handle) for the specified parent window name. All functions which accept a partial window name as a parameter now accept the Window ID obtained with **WinIdGet**. This can be useful to distinguish between multiple windows with the same name, or to track a window whose title changes.

Example:

```
Run("notepad.exe", "")
winid1 = WinIdGet("~Notepad")  ; gets the most-recently-accessed Notepad
Run("notepad.exe", "")
winid2 = WinIdGet("~Notepad")  ; gets the most-recently-accessed Notepad
WinPlace(0, 0, 500, @ABOVEICONS, winid1)
WinPlace(500, 0, 1000, @ABOVEICONS, winid2)
WinActivate(winid1)
```

See Also:

DllHwnd, WinExist, WinGetActive, WinItemNameId, WinTitle

Tells whether or not a particular window is a DOS or console-type window.

Syntax:

WinIsDOS("partial-winname")

Parameters:

(s) partial-winname the initial part of, or an entire, window name.

Returns:

(i)	**@TRUE** if the window is a DOS window. **@FALSE** if it is not a DOS window.

Use this function to determine if the application is in DOS or Windows.

Note: "Partial-winname" is the initial part of a window name, and may be a complete window name. It is case-sensitive. You should specify enough characters so that "partial-winname" matches only one existing window. If it matches more than one window, the most recently accessed window which it matches will be used.

Example:

```
Run("command.com", "")
delay(5)
a=WinIsDOS("COMMAND")
if a==@true then message(a, "is a DOS window")
```

See Also:

WinExeName, WinExist, WinGetActive, WinItemize, WinName, WinState, WinTitle

Returns a list of all the child windows under this parent.

Syntax:

WinItemChild("partial-parent-windowname")

Parameters:

(s) partial-parent-windowname the initial part of, or an entire, window name.

Returns:

(s) a list of all the child windows under the parent.

Use this function to return a tab-delimited list of all child windows existing under a given parent window. **Note:** "Partial-parent-windowname" is the initial part of a window name, and may be a complete window name. It is case-sensitive. You should specify enough characters so that "partial-parent-windowname" matches only one existing window. If it matches more than one window, the most recently accessed window which it matches will be used.

Example:

```
grplist=WinItemChild("Program Man")
AskItemList("Progman Groups", grplist, @TAB, @SORTED, @SINGLE)
```

See Also:

AppExist, WinActivate, WinClose, WinExeName, WinGetActive, WinItemize, WinState

Returns a tab-delimited list of all open windows.

Syntax:

WinItemize ( )

Parameters:

(none)

Returns:

(s) list of the titles of all open windows.

This function compiles a list of all the open application windows' titles and separates the titles by tabs. This is especially useful in conjunction with the **AskItemList** function, which enables the user to choose an item from such a tab-delimited list.

Note this behaves somewhat differently than **FileItemize** and **DirItemize**, which create space-delimited lists. This is because window titles regularly contain embedded spaces.

This function works only with top-level (parent) application windows. See **WinItemChild** to work with child windows.

Example:

```
; Find a window
allwins = WinItemize()
htab = Num2Char(9)
mywind = AskItemList("Windows", allwins, htab, @unsorted, @single)
WinActivate(mywind)
```

See Also:

DirItemize, FileItemize, AskItemList, WinClose, WinCloseNot, WinGetActive, WinItemNameId, WinName, WinPlaceGet, WinPosition

Returns a list of all open windows and their Window ID's.

Syntax:

WinItemNameId()

Parameters:

(none)

Returns:

(s) list of the titles and Window ID's of all open windows.

This function returns a list of top-level window titles and their corresponding "Window ID's", in the form:
"window1-name|window1-ID|window2-name|window2-ID|..."

Example:

```
winlist = WinItemNameId()
TextSelect("Windows and ID's", winlist, "|")
```

See Also:

WinIdGet, WinItemize

Returns Windows system information.

Syntax:

WinMetrics (request#)

Parameters:

(i) request# see below.

Returns:

(i) see below.

The request# parameter determines what piece of information will be returned.

Req#	Return value
-4	**Windows Platform** 0 = Other 1 = Windows 2 = Windows for Workgroups 3 = Win32s 4 = Windows NT 5 = Windows 95
-3	**WIL EXE type** 0=Win16, 1=Intel32, 2=Alpha32, 3=Mips32
-2	**WIL platform** 1=Win16, 2=Win32
-1	Number of colors supported by video driver
0	Width of screen, in pixels
1	Height of screen, in pixels
2	Width of arrow on vertical scrollbar
3	Height of arrow on horizontal scrollbar
4	Height of window title bar
5	Width of window border lines
6	Height of window border lines
7	Width of dialog box frame
8	Height of dialog box frame
9	Height of thumb box on scrollbar
10	Width of thumb box on scrollbar
11	Width of an icon
12	Height of an icon
13	Width of a cursor
14	Height of a cursor
15	Height of a one line menu bar
16	Width of full screen window
17	Height of a full screen window
18	Height of Kanji window (Japanese)
19	Is a mouse present (0 = No, 1 = Yes)
20	Height of arrow on vertical scrollbar
21	Width of arrow on horizontal scrollbar
22	Is debug version of Windows running (0 = No, 1 = Yes)
23	Are Left and Right mouse buttons swapped (0 = No, 1 = Yes)
24	Reserved
25	Reserved
26	Reserved
27	Reserved
28	Minimum width of a window
29	Minimum height of a window
30	Width of bitmaps in title bar
31	Height of bitmaps in title bar
32	Width of sizeable window frame

33 Height of sizeable window frame
34 Minimum tracking width of a window
35 Minimum tracking height of a window

Additional request #'s for WinMetrics (32-bit version only):

41 TRUE or non-zero if the Microsoft Windows for Pen computing extensions are installed; zero, or FALSE, otherwise.
42 TRUE or non-zero if the double-byte character set (DBCS) version of USER.EXE is installed; FALSE, or zero otherwise.
43 Number of buttons on mouse, or zero if no mouse is installed.
44 (Win95 only) TRUE if security is present, FALSE otherwise.
63 (Win95 only) The least significant bit is set if a network is present; otherwise, it is cleared. The other bits are reserved for future use.
67 (Win95 only) Value that specifies how the system was started:
0 - Normal boot
1 - Fail-safe boot
2 - Fail-safe with network boot
Fail-safe boot (also called SafeBoot) bypasses the user's startup files.
70 TRUE or non-zero if the user requires an application to present information visually in situations where it would otherwise present the information only in audible form; FALSE, or zero, otherwise.
73 (Win95 only) TRUE if the computer has a low-end (slow) processor.
74 (Win95 only) TRUE if the system is enabled for Hebrew/Arabic languages.

There are a number of other request #'s which can be specified, but are of limited usefulness and therefore not documented here. Details on these can be obtained from Win32 programming references, available from Microsoft (and others).

Example:

```
mouse = "NO"
If WinMetrics(19) == 1 Then mouse = "YES"
Message("Is there a mouse installed?", mouse)
```

See Also:

Environment, MouseInfo, NetInfo, WinParmGet, WinResources

Returns the name of the window calling the WIL Interpreter.

Syntax:

WinName ( )

Parameters:

(none)

Returns:

(s) window name.

Returns the name of the window making the current call to the WIL Interpreter.

Example:

```
allwins = WinItemize()
win = AskItemList("Close window", allwins, @tab, @sorted, @single)
If win == WinName()
     Message("Sorry", "I can't close myself")
else
     WinClose(win)
endif
Exit
```

See Also:

WinActivate, WinExeName, WinGetActive, WinItemize, WinTitle

Returns system information.

Syntax:

WinParmGet (request#)

Parameters:

(i) request# see below.

Returns:

(s) see below.

Note: This function requires Windows 3.1 or higher.

The request# parameter determines what piece of information will be returned.

Req#	Meaning	Return value
1	Beeping	0 = Off, 1 = On
2	Mouse sensitivity	"threshold1 threshold2 speed"
3	Border Width	Width in pixels
4	Keyboard Speed	Keyboard Repeat rate
5	LangDriver	name of LANGUAGE.DLL
6	Horiz. Icon Spacing	Spacing in pixels
7	Screen Save Timeout	Timeout in seconds
8	Is screen saver enabled	0 = No, 1 = Yes
9	Desktop Grid size	Grid Size
10	Wallpaper BMP file	BMP file name
11	Desktop Pattern	Pattern codes (string of 8 space-delimited nums.)
12	Keyboard Delay	Delay in milliseconds
13	Vertical Icon Spacing	Spacing in pixels
14	IconTitleWrap	0 = No, 1 = Yes
15	MenuDropAlign	0 = Right, 1 = Left
16	DoubleClickWidth	Allowable horiz. movement in pixels for DblClick
17	DoubleClickHeight	Allowable vert. movement in pixels for DblClick
18	DoubleClickSpeed	Max time in millisecs between clicks for DblClick
19	MouseButtonSwap	0 = Not swapped, 1 = swapped
20	Fast Task Switch	0 = Off, 1 = On

Example:

```
If WinParmGet(8) == 1 Then Message("", "Screen saver is active")
```

See Also:

Environment, MouseInfo, NetInfo, WinMetrics, WinParmSet, WinResources

Sets system information.

Syntax:

WinParmSet (request#, new-value, ini-control)

Parameters:

(i) request#	see **WinParmGet**
(s) new-value	see **WinParmGet**
(i) ini-control	see below.

Returns:

(i)	previous value of the setting.

Note: This function requires Windows 3.1 or higher.

See **WinParmGet** for a list of valid request #'s and values.

The "ini-control" parameter determines to what extent the value gets updated:

0 Set system value in memory only for future reference
1 Write new value to appropriate INI file
2 Broadcast message to all applications informing them of new value
3 Both 1 and 2

Example:

```
WinParmSet(9, "2", 3)    ; sets desktop grid size to 2
```

See Also:

WallPaper, WinParmGet

Places a window anywhere on the screen.

Syntax:

WinPlace (x-ulc, y-ulc, x-brc, y-brc, partial-winname)

Parameters:

(i) x-ulc	how far from the left of the screen to place the upper-left corner (0-1000).
(i) y-ulc	how far from the top of the screen to place the upper-left corner (0-1000).
(i) x-brc	how far from the left of the screen to place the bottom-right corner (10-1000) or **@NORESIZE**.
(i) y-brc	how far from the top of the screen to place the bottom-right corner (10-1000) or **@NORESIZE** or **@ABOVEICONS**.
(s) partial-winname	either an initial portion of, or an entire windowname. The most-recently used window whose title matches the name will be moved to the new position.

Returns:

(i)	**@TRUE** if a window was found to move; **@FALSE** if no windows were found.

Use this function to move windows on the screen. (You cannot, however, move icons or windows that have been maximized to full screen).

The "x-ulc", "y-ulc", "x-brc", and "y-brc" parameters are based on a logical screen that is 1000 points wide by 1000 points high.

You can move the window without changing the width and/or height by specifying **@NORESIZE** for the "x-brc" and/or "y-brc" parameters, respectively.

You can fix the bottom of the window to sit just above the line of icons along the bottom of the screen by specifying a "y-brc" of **@ABOVEICONS**.

Some sample parameters:

Upper left quarter of the screen: **0, 0, 500, 500**
Upper right quarter: **500, 0, 1000, 500**
Center quarter: **250, 250, 750, 750**
Lower left eighth: **0, 750, 500, 1000**

This function works only with top-level (parent) application windows.

Example:

```
WinPlace(0, 0, 200, 200, "Clock")
```

See Also:

WinArrange, WinHide, WinIconize, WinPlaceSet, WinPosition, WinShow, WinZoom

Returns window coordinates.

Syntax:

WinPlaceGet (win-type, partial-winname)

Parameters:

(i) win-type **@ICON**, **@NORMAL**, or **@ZOOMED**
(s) partial-winname the initial part of, or an entire, window name.

Returns:

(s) window coordinates (see below).

This function returns the coordinates for an iconized, normal, or zoomed window.

"Partial-winname" is the initial part of a window name, and may be a complete window name. It is case-sensitive. You should specify enough characters so that "partial-winname" matches only one existing window. If it matches more than one window, the most recently accessed window which it matches will be used.

The returned value is a string of either 2 or 4 numbers, as follows:

Iconic windows "x y"	(upper left corner of the icon)
Normal windows	"upper-x upper-y lower-x lower-y"
Zoomed windows	"x y" (upper left corner of the window)

All coordinates are relative to a virtual 1000x1000 screen.

This function works only with top-level (parent) application windows.

Examples:

```
Run("clock.exe", "")
pos = WinPlaceGet(@NORMAL, "Clock")
Delay(2)
WinPlaceSet(@NORMAL, "Clock", "250 250 750 750")
Delay(2)
WinPlaceSet(@NORMAL, "Clock", pos)
```

See Also:

WinGetActive, WinItemize, WinPlaceSet, WinPosition, WinState

Sets window coordinates.

Syntax:

WinPlaceSet (win-type, partial-winname, position-string)

Parameters:

(i) win-type	**@ICON**, **@NORMAL**, or **@ZOOMED**
(s) partial-winname	the initial part of, or an entire, window name.
(s) position-string	window coordinates (see below).

Returns:

(s)	previous coordinates.

This function sets the coordinates for an iconized, normal, or zoomed window. The window does not have to be in the desired state to set the coordinates; for example, you can set the iconized position for a normal window so that when the window is subsequently iconized, it will go to the coordinates that you've set.

"Partial-winname" is the initial part of a window name, and may be a complete window name. It is case-sensitive. You should specify enough characters so that "partial-winname" matches only one existing window. If it matches more than one window, the most recently accessed window which it matches will be used.

"Position-string" is a string of either 2 or 4 numbers, as follows:

Iconic windows	"x y"	(upper left corner of the icon)
Normal windows	"upper-x upper-y lower-x lower-y"	
Zoomed windows	"x y"	(upper left corner of the window)

All coordinates are relative to a virtual 1000x1000 screen.

This function works only with top-level (parent) application windows.

Examples:

```
WinPlaceSet(@ICON, "Clock", "10 950")

WinPlaceSet(@NORMAL, "Clock", "250 250 750 750")

WinPlaceSet(@ZOOMED, "Clock", "-5 -5")
```

See Also:

IconArrange, WinActivate, WinArrange, WinPlace, WinPlaceGet, WinState

Returns Window position.

Syntax:

WinPosition (partial-winname)

Parameters:

(s) partial-winname the initial part of, or an entire, winname.

Returns:

(s) window coordinates, delimited by commas.

Returns the current window position information for the selected window. It returns 4 comma-separated numbers (see **WinPlace** for details).

This function works only with top-level (parent) application windows.

Example:

```
Run("clock.exe", "")               ; start Clock
WinPlace(0,0,300,300, "Clock")     ; place Clock
pos = WinPosition("Clock")         ; save position
delay(2)
WinPlace(200,200,300,300, "Clock") ; move Clock
delay(2)
WinPlace(%pos%, "Clock")           ; restore Clock
```

See Also:

WinGetActive, WinItemize, WinPlace, WinPlaceGet, WinState

Returns information on available memory and resources.

Syntax:

WinResources (request#)

Parameters:

(i) request# see below

Returns:

(i) see below.

The value of request# determines the piece of information returned.

Req#	Return value
0	Total available memory, in bytes
1	Theoretical maximum available memory, in bytes
2	Percent of free system resources (lower of GDI and USER)
3	Percent of free GDI resources
4	Percent of free USER resources

Example:

```
mem = WinResources(0)
Message("Available memory", "%mem% bytes")
```

See Also:

WinMetrics, WinParmGet

Shows a window in its "normal" state.

Syntax:

WinShow (partial-winname)

Parameters:

(s) partial-winname	either an initial portion of, or an entire window name. The most-recently used window whose title matches the name will be shown.

Returns:

(i)	**@TRUE** if a window was found to show; **@FALSE** if no windows were found.

Use this function to restore a window to its "normal" size and position.
A partial-window name of **""** (null string) restores the current WIL interpreter window.

Example:

```
RunZoom("notepad.exe", "")
; other processing...
WinShow("Notepad")
```

See Also:

WinArrange, WinHide, WinIconize, WinZoom

Returns the current state of a window.

Syntax:

WinState (partial-winname)

Parameters:

(s) partial-winname the initial part of, or an entire, window name.

Returns:

(i) window state (see below).

"Partial-windname" is the initial part of a window name, and may be a complete window name. It is case-sensitive. You should specify enough characters so that "partial-winname" matches only one existing window. If it matches more than one window, the most recently accessed window which it matches will be used.

Possible return values are as follows.

Value	Symbolic name	Meaning
-1	@HIDDEN	Specified window exists, but is hidden
0	@FALSE	Specified window does not exist
1	@ICON	Specified window is iconic (minimized)
2	@NORMAL	Specified window is a normal window
3	@ZOOMED	Specified window is zoomed (maximized)

This function works only with top-level (parent) application windows.

Example:

```
If WinState("Notepad") == @ICON Then WinShow("Notepad")
```

See Also:

Run, WinExist, WinGetActive, WinHide, WinIconize, WinItemize, WinPlace, WinPlaceGet, WinPlaceSet, WinPosition, WinShow, WinZoom

Returns system configuration information.

Syntax:

WinSysInfo()

Parameters:

(none)

Returns:

(s) a TAB delimited list of system configuration information.

WinSysInfo returns a TAB-delimited list containing the following items:

1. computer name of the current system.
2. processor architecture.
3. page size (specifies granularity of page protection and commitment).
4. mask representing the set of processors configured into the system.
5. number of processors in the system.
6. processor type.
7. granularity in which memory will be allocated.
8. system's architecture-dependent processor level.
9. architecture-dependent processor revision.

Note: This function should be used instead of WinConfig in the 32-bit version.

Example:

```
sysinfo = WinSysInfo()
computer  = ItemExtract(1, sysinfo, @TAB)
processor = ItemExtract(6, sysinfo, @TAB)
Message(computer, "is a %processor%")
```

See Also:

WinMetrics, WinParmGet, WinResources

Changes the title of a window.

Syntax:

WinTitle (partial-winname, new-name)

Parameters:

(s) partial-winname	either an initial portion of, or an entire window name. The most-recently used window whose title matches the name will be shown.
(s) new-name	the new name of the window.

Returns:

(i)	**@TRUE** if a window was found to rename; **@FALSE** if no windows were found.

Use this function to change a window's title.

A partial-window name of **""** (null string) refers to the current WIL interpreter window.

Warning: Some applications may rely upon their window's title staying the same! Therefore, the **WinTitle** function should be used with caution and adequate testing.

This function works only with top-level (parent) application windows.

Example:

```
; Capitalize title of window
htab = Num2Char(9)
allwinds = WinItemize()
mywin = AskItemList("Uppercase Windows", allwinds, htab, @unsorted,
                                        @single)
WinTitle(mywin, StrUpper(mywin))
Drop(htab, allwinds, mywin)
```

See Also:

WinGetActive, WinItemize, WinName

Provides the version number of the current Windows system.

Syntax:

WinVersion (level)

Parameters:

(i) level either **@MAJOR** or **@MINOR.**

Returns:

(i) either major or minor part of the Windows version number.

Use this command to determine which version of Windows is currently running.

@MAJOR returns the integer part of the Windows version number;
i.e. **1**.0, **2**.11, **3**.0, etc.

@MINOR returns the decimal part of the Windows version number;
i.e. 1.**0**, 2.**11**, 3.**0**, etc.

Example:

```
minorver = WinVersion(@MINOR)
majorver = WinVersion(@MAJOR)
Message("Windows Version", StrCat(majorver, ".", minorver))
```

See Also:

Version, DOSVersion

Suspends the WIL program execution until a specified window has been closed.

Syntax:

WinWaitClose (partial-winname)

Parameters:

(s) partial-winname — either an initial portion of, or an entire window name. **WinWaitClose** suspends execution until all matching windows have been closed.

Returns:

(i) — **@TRUE** if at least one window was found to wait for; **@FALSE** if no windows were found.

Use this function to suspend the WIL program's execution until the user has finished using a given window and has manually closed it.
This function works only with top-level (parent) application windows.

Example:

```
Run("clock.exe", "")
Display(4, "Note", "Close Clock to continue")
WinWaitClose("Clock")
Message("Continuing...", "Clock closed")
```

See Also:

AppWaitClose, Delay, RunWait, WinExist, Yield

Maximizes a window to full-screen.

Syntax:

WinZoom (partial-winname)

Parameters:

(s) partial-winname	either an initial portion of, or an entire window name. The most-recently used window whose title matches the name will be shown.

Returns:

(i)	**@TRUE** if a window was found to zoom; **@FALSE** if no windows were found.

Use this function to "zoom" windows to full screen size.
A partial-winname of **""** (null string) zooms the current WIL interpreter window.
This function works only with top-level (parent) application windows.

Example:

```
Run("notepad.exe", "")
WinZoom("Notepad")
Delay(3)
WinShow("Notepad")
```

See Also:

RunZoom, WinHide, WinIconize, WinPlace, WinShow

Provides time for other windows to do processing.

Syntax:

Yield

Parameters:

(none)

Returns:

(not applicable)

Use this command to give other running windows time to process. This command will allow each open window to process 20 or more messages.

Example:

```
; run Excel and give it some time to start up
sheet = AskLine ("Excel", "File to run:", "")
Run("excel.exe", sheet)
Yield
Yield
Yield
```

See Also:

TimeDelay, TimeWait, Exclusive