

The NVAR, SVAR and WAVE references are necessary in functions so that the compiler can identify the kind of object. This is explained under **Accessing Global Variables and Waves** on page IV-65.

Using \$ to Refer to a Window

A number of Igor operations modify or create windows, and optionally take the name of a window. You need to use a string variable if the window name is not determined until run time but must convert the string into a name using \$.

For instance, this function creates a graph using a name specified by the calling function:

```
Function DisplayXY(xWave, yWave, graphNameStr)
    Wave xWave, yWave
    String graphNameStr      // Contains name to use for the new graph

    Display /N=$graphNameStr yWave vs xWave
End
```

The \$ operator in /N=\$graphNameStr converts the contents of the string graphNameStr into a graph name as required by the Display operation /N flag. If you forget \$, the command would be:

```
Display /N=graphNameStr yWave vs xWave
```

This would create a graph literally named graphNameStr.

Using \$ In a Data Folder Path

\$ can also be used to convert a string to a name in a data folder path. This is used when one of many data folders must be selected algorithmically.

Assume you have a string variable named dfName that tells you in which data folder a wave should be created. You can write:

```
Make/O root:$ (dfName) :wave0
```

The parentheses are necessary because the \$ operator has low precedence.

Using \$ Examples

This function illustrates various uses of \$ in user-defined functions:

```
Function Demo()
    String s = "wave0"          // A string containing a name

    // Make requires a name, not a string
    Make/O $s

    // A wave declaration requires a name on the righthand side, not a string
    WAVE w = $s                  // w is a wave reference

    // Display requires a wave reference
    Display w

    // ModifyGraph requires a trace name, not a string or a wave reference
    ModifyGraph mode($s) = 0

    AppendToGraph w             // Add another trace showing wave0

    // #1 is "instance notation" to distinguish multiple traces from same wave
    String t = "wave0#1"

    // ModifyGraph requires a trace name, not a string or a wave reference
```