

Chapter IV-3 — User-Defined Functions

Local Variable Declarations

The parameter declarations are followed by the local variable declarations if the procedure uses local variables. Local variables exist only during the execution of the procedure. They are declared using one of these keywords:

Variable	Numeric variable
Variable/C	Complex numeric variable
String	String variable
NVAR	Global numeric variable reference
NVAR/C	Global complex numeric variable reference
SVAR	Global variable reference
Wave	Wave reference
Wave/C	Complex wave reference
Wave/T	Text wave reference
DFREF	Data folder reference
FUNCREF	Function reference
STRUCT	Structure
int	Signed integer - requires Igor7 or later
int64	Signed 64-bit integer - requires Igor7 or later
uint64	Unsigned 32-bit integer - requires Igor7 or later
double	Numeric variable - requires Igor7 or later
complex	Complex numeric variable - requires Igor7 or later

double is a synonym for Variable and complex is a synonym for Variable/C.

Numeric and string local variables can optionally be initialized. For example:

```
Function Example(p1)
    Variable p1

    // Here are the local variables
    Variable v1, v2
    Variable v3=0
    Variable/C cv1=cmplx(0,0)
    String s1="test", s2="test2"

    <Body code>
End
```

If you do not supply explicit initialization, Igor automatically initializes local numeric variables with the value zero. Local string variables are initialized with a null value such that, if you try to use the string before you store a value in it, Igor reports an error.

Initialization of other local variable types is discussed below. See **Wave References** on page IV-71, **Data Folder References** on page IV-78, **Function References** on page IV-107, and **Structures in Functions** on page IV-99.

The name of a local variable is allowed to conflict with other names in Igor, but they must be unique within the function. If you create a local variable named "sin", for example, then you will be unable to use Igor's built-in sin function within the function.