

Other Functions

@IN (set_name , set_element)

Returns 1 if *set_element* is present in *set_name*; returns 0 if not present.

@SIZE (set_name)

Returns the number of elements in the set.

@WARN('text', condition)

If the condition is true, the message text' is displayed when the model is solved. This is useful for warning the user of any abnormal data values.

@WRAP(I,N)

Returns *I* if *I* is in the interval $[1, N]$. Otherwise, *@WRAP* subtracts *N* from *I* until *I* is in the interval $[1, N]$, then returns *I*. (Formally, returns *J* such that $J = I - K * N$, where *K* is a positive or negative integer such that *J* is in the interval $[1, N]$). *@WRAP* is undefined if $N < 1$. The *@WRAP* function is useful, for instance, in staffing models when you want to assign a seven day period that wraps around from Thursday to Tuesday.

The @USER Function

The *@USER* function allows the use of custom functions in LINGO. The functions must be written and compiled in the FORTRAN or C programming languages.

From the perspective of a LINGO model, an *@USER* function is a function that can take *any number* of arguments, but must take at least one. It returns a result calculated by the user-written routine.

From the perspective of the programmer writing the custom function, an *@USER* function takes *only two* arguments:

- An integer specifying the number of arguments encountered in the *@USER* reference in the LINGO model

- A vector containing the values of the arguments encountered in the *@USER* reference

In other words, although to the LINGO modeler an *@USER* function can appear to take any number of arguments specified by the programmer, to the programmer writing the function, only two arguments are allowed. For more information on the *@USER* function, please refer to your LINGO documentation.