KNOTS

PURPOSE
Specifies the knot positions for subsequent SPLINE FIT commands.

DESCRIPTION
The knot positions are those values along the horizontal axis variable which define the endpoints of each sub-domain. Individual curves are "splined together" at these points to form a smooth curve over the entire domain. The desired knot values must be placed in a variable by the analyst. This is most commonly done via the SERIAL READ, the READ, or the LET commands. For example, to specify knot values of 25, 75, and 109.3, one could enter

LET X2 = DATA 25 75 109.3

To specify that X2 is the variable with the knots, enter

KNOTS X2

To actually carry out the cubic spline fit on the raw data in the variables X and Y, enter

CUBIC SPLINE FIT Y X

The KNOTS command receives only light usage since the knots variable can be imbedded directly in the command itself as the third argument. Thus the above sequence can be shortened to

CUBIC SPLINE FIT Y X X2

SYNTAX
KNOTS <x>
where <x> is a variable that contains the desired knot points.

EXAMPLES
KNOTS X2

DEFAULT
None

SYNONYMS
None

RELATED COMMANDS
SPLINE FIT	=	Carries out a spline fit.
READ	=	Reads data (column-wise) into variables.
SERIAL READ	=	Reads data (row-wise) into variables.
LET	=	Creates variables (and many other operations).

APPLICATIONS
Spline fitting

IMPLEMENTATION DATE
Pre-1987

PROGRAM
READ SWANSON.DAT Y X
LET KNOT = DATA 70 90 95 110 140 160 190 240
KNOTS KNOT
CUBIC SPLINE FIT Y X