UNISF

PURPOSE

Compute the standard uniform sparsity function.

DESCRIPTION

The standard uniform probability density function is:

$$f(x) = 1 \qquad \text{for } 0 \le x \le 1 \qquad \textbf{(EQ 8-344)}$$

The standard uniform sparsity function is:

$$sf(p) = 1 \qquad \textbf{(EQ 8-345)}$$

The input value is a real number between 0 and 1.

SYNTAX

LET <y2> = UNISF(<y1>) <SUBSET/EXCEPT/FOR qualification>
where <y1> is a variable, a number, or a parameter in the range 0 to 1;
<y2> is a variable or a parameter (depending on what <y1> is) where the computed uniform ppf value is stored;
and where the <SUBSET/EXCEPT/FOR qualification> is optional.

EXAMPLES

LET A = UNISF(0.9)
LET Y = UNISF(P)

NOTE

The general uniform probability density function is:

$$f(x) = \frac{1}{(b-a)} \qquad \text{for } a \le x \le b \qquad \textbf{(EQ 8-346)}$$

where a and b are the lower and upper limits of the range respectively. The location parameter is a and the scale parameter is (b-a). The general uniform sparsity function is:

$$sf(p) = (b-a) \qquad \textbf{(EQ 8-347)}$$

See topic (3) under the General considerations section at the beginning of this chapter for a discussion of generating sparsity function values for the general form of the distribution.

DEFAULT

None

SYNONYMS

None

RELATED COMMANDS

UNICDF	=	Compute the uniform cumulative distribution function.
UNIPDF	=	Compute the uniform probability density function.
UNIPPF	=	Compute the uniform percent point function.
NORCDF	=	Compute the normal cumulative distribution function.
NORPDF	=	Compute the normal probability density function.
NORPPF	=	Compute the normal percent point function.
SEMCDF	=	Compute the semi-circular cumulative distribution function.
SEMPDF	=	Compute the semi-circular probability density function.
SEMPPF	=	Compute the semi-circular percent point function.

REFERENCE

"Continuous Univariate Distributions - 2," Johnson and Kotz, Houghton Mifflin, 1970 (chapter 25).

"Statistical Distributions," 2nd. Edition, Evans, Hastings, and Peacock, John Wiley and Sons (chapter 35).

APPLICATIONS

Data Analysis

IMPLEMENTATION DATE

94/4

PROGRAM

```
XLIMITS 0 1
MAJOR XTIC NUMBER 6
MINOR XTIC NUMBER 1
XTIC DECIMAL 1
TITLE AUTOMATIC
X1LABEL PROBABILITY
Y1LABEL X
PLOT UNISF(X) FOR X = 0.01 .01 0.99
```