# UNIPDF

PURPOSE

Compute the standard uniform probability density function.

DESCRIPTION

The standard uniform probability density function is:

$$f(x) = 1 \qquad \text{for } 0 \le x \le 1 \qquad \textbf{(EQ 8-338)}$$

This distribution has a mean of 0.5 and a standard deviation of 1/(2sqrt(3)).

SYNTAX

LET <y2> = UNIPDF(<y1>)                          <SUBSET/EXCEPT/FOR qualification>
where <y1> is a variable, a number, or a parameter containing values between 0 and 1;
        <y2> is a variable or a parameter (depending on what <y1> is) where the computed uniform pdf value is stored;
and where the <SUBSET/EXCEPT/FOR qualification> is optional.

EXAMPLES

LET A = UNIPDF(3)
LET Y = UNIPDF(X1)

NOTE

The general uniform probability density function is:

$$f(x) = \frac{1}{(b-a)} \qquad \text{for } a \le x \le b \qquad \textbf{(EQ 8-339)}$$

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). This distribution has a mean of (a+b)/2 and a standard deviation of (b-a)/(2*SQRT(3)). See topic (3) under the General considerations section at the beginning of this chapter for a discussion of generating pdf values for the general form of the distribution.

DEFAULT

None

SYNONYMS

None

RELATED COMMANDS

| | | |
|---|---|---|
| UNICDF | = | Compute the uniform cumulative distribution function. |
| UNIPPF | = | Compute the uniform percent point function. |
| UNISF | = | Compute the uniform sparsity 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
       XTIC OFFSET 0.05 0.05
       TITLE AUTOMATIC
       X1LABEL X
       Y1LABEL PROBABILITY
       PLOT UNIPDF(X) FOR X = 0 0.01 1