

CLOG**PURPOSE**

Compute the real or complex component of the natural logarithmic function for a complex number.

SYNTAX 1

LET <yr> = CLOG(<xr>,<xc>) <SUBSET/EXCEPT/FOR qualification>

where <xr> is a number, parameter, or variable that specifies the real component of the the complex number;

<xc> is a number, parameter, or variable that specifies the complex component of the the complex number;

<yr> is a variable or a parameter (depending on what <xr> and <xc> are) where the real component of the computed logarithmic value is stored;

and where the <SUBSET/EXCEPT/FOR qualification> is optional.

This syntax computes the real component of the complex logarithmic function.

SYNTAX 2

LET <yc> = CLOG(<xr>,<xc>) <SUBSET/EXCEPT/FOR qualification>

where <xr> is a number, parameter, or variable that specifies the real component of the the complex number;

<xc> is a number, parameter, or variable that specifies the complex component of the the complex number;

<yr> is a variable or a parameter (depending on what <xr> and <xc> are) where the complex component of the computed logarithmic value is stored;

and where the <SUBSET/EXCEPT/FOR qualification> is optional.

This syntax computes the complex component of the complex logarithmic function.

EXAMPLES

LET AR = CLOG(14,-2)

LET AC = CLOGI(14,-2)

LET ZR = CLOG(XR,XC)

LET ZC = CLOGI(XR,XC)

NOTE

DATAPLOT uses the Fortran intrinsic function CLOG to compute this function.

DEFAULT

None

SYNONYMS

None

RELATED COMMANDS

LOG	=	Compute the natural logarithm of a real number.
CEXP	=	Compute the real component of the exponential of a complex number.
CEXPI	=	Compute the complex component of the exponential of a complex number.
CCOS	=	Compute the real component of the cosine of a complex number.
CCOSI	=	Compute the complex component of the cosine of a complex number.
CSIN	=	Compute the real component of the sine of a complex number.
CSINI	=	Compute the complex component of the sine of a complex number.
CSQRT	=	Compute the real component of the square root of a complex number.
CSQRTI	=	Compute the complex component of the square root of a complex number.

APPLICATIONS

Elementary functions

IMPLEMENTATION DATE

94/10

PROGRAM

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X1LABEL SOLID = REAL COMPONENT
X2LABEL DASH = COMPLEX COMPONENT
LINE SOLID DASH
MULTIPLY 2 2; MULTIPLY CORNER COORDINATES 0 0 100 100
LET C = 1
TITLE CLOG, COMPLEX COMPONENT = ^C
PLOT CLOG(X,C) FOR X = -3 0.01 3 AND
PLOT CLOGI(X,C) FOR X = -3 .01 3
LET C = -1
TITLE CLOG, COMPLEX COMPONENT = ^C
PLOT CLOG(X,C) FOR X = -3 0.01 3 AND
PLOT CLOGI(X,C) FOR X = -3 .01 3
LET C = 2
TITLE CLOG, COMPLEX COMPONENT = ^C
PLOT CLOG(X,C) FOR X = -3 0.01 3 AND
PLOT CLOGI(X,C) FOR X = -3 .01 3
LET C = -2
TITLE CLOG, COMPLEX COMPONENT = ^C
PLOT CLOG(X,C) FOR X = -3 0.01 3 AND
PLOT CLOGI(X,C) FOR X = -3 .01 3
END OF MULTIPLY

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