CCOS

PURPOSE

Compute the real or complex component of the cosine of a complex number.

SYNTAX 1

LET <yr> = CCOS(<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 cosine value is stored;

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

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

SYNTAX 2

LET <yc> = CCOSI(<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;
<yc> is a variable or a parameter (depending on what <xr> and <xc> are) where the complex component of the computed cosine value is stored;

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

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

EXAMPLES

```
LET AR = CCOS(-2,1)
LET AC = CCOSI(-2,1)
LET ZR = CCOS(XR,XC)
LET ZC = CCOSI(XR,XC)
```

NOTE

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

DEFAULT

None

SYNONYMS

None

RELATED COMMANDS

COS	=	Compute the cosine of a real number.
CABS	=	Compute the absolute value of a complex 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.
CLOG	=	Compute the real component of the logarithm of a complex number.
CLOGI	=	Compute the complex component of the logarithm 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

```
X1LABEL SOLID = REAL COMPONENT
X2LABEL DASH = COMPLEX COMPONENT
LINE SOLID DASH
YLIMITS -3 3
MULTIPLOT 2 2; MULTIPLOT CORNER COORDINATES 0 0 100 100
LET C = PI/4
TITLE CCOS, COMPLEX COMPONENT = ^C
PLOT CCOS(X,C) FOR X = -10 0.1 10 AND
PLOT CCOSI(X,C) FOR X = -10 0.1 10
LET C = -PI/4
TITLE CCOS, COMPLEX COMPONENT = ^C
PLOT CCOS(X,C) FOR X = -10 0.1 10 AND
PLOT CCOSI(X,C) FOR X = -10 0.1 10
LET C = PI/2
TITLE CCOS, COMPLEX COMPONENT = ^C
PLOT CCOS(X,C) FOR X = -10 0.1 10 AND
PLOT CCOSI(X,C) FOR X = -10 0.1 10
LET C = -PI/2
TITLE CCOS, COMPLEX COMPONENT = ^C
PLOT CCOS(X,C) FOR X = -10 0.1 10 AND
PLOT CCOSI(X,C) FOR X = -10 0.1 10
END OF MULTIPLOT
```