

RedCrab

The Calculator

Version 4.14 News

copyright © by Redchillicrab, Singapore 2009 - 2012

DTime

The function ***DTime*** returns the ***DateTime*** value of the given year, month, day, hour, minute and second. The argument must be a data field that includes six cells which contains the value of year, month, day, hour, minute and second.

The year must be between 1 and 9999.

Valid Month values are 1 through 12.

Valid Hour values are 0 through 23.

Valid Min and Sec values are 0 through 59.

Valid Day values are 1 through 28, 29, 30, or 31, depending on the Month value. For example, the possible Day values for month 2 (February) are 1 through 28 or 1 through 29, depending on whether or not the Year value specifies a leap year.

Example: `d = dtime([Y,M,D,h,m,s])`

A call of ***DTime*** with the argument ***0*** returns the current date and time.

Example: `current = dtime(0)`

DateTime value format

The integral part of ***DateTime*** value is the number of days that have passed since 30.12.1899. The fractional part of the ***DateTime*** value is fraction of a 24 hour day that has elapsed. Following are some examples of values and their corresponding dates and times:

0	:	30.12.1899	12:00 am
2.75	:	01.01.1900	06:00 pm
-1.25	:	29.12.1899	06.00 pm
35065	:	01.01.1996	12:00 am

To find the fractional number of days between two dates, simply subtract the two values, unless one of the ***DateTime*** values is negative. Similarly, to increment a date and time value by a certain fractional number of days, add the fractional number to the date and time value if the ***DateTime*** value is positive. When working with negative ***DateTime*** values, computations must handle time portion separately. The fractional part reflects the fraction of a 24-hour day without regard to the sign of the ***DateTime*** value. For example, 6:00 am on 29.12.1899 is -1.25 , not $-1 + 0.25$, which would be -0.75 . There are no ***DateTime*** values between -1 and 0 .

DTimeF

The function ***DTimeF*** returns a data field that includes six cells which contains the value of year, month, day, hour, minute and second of the arguments ***DateTime*** value.

Example `DTimeF(d) = 2012 4 12 14 27 18`

Display Date and Time

DateTime values can be displayed as a formatted text string in result boxes. The format command is “\D”, with a following format string.

Example: #\D”dd.mm.yyyy tt”	display : 14.04.2012 2:24:09 PM
#\D”dd.mm.yyyy”	display: 14.04.2012
#\D”dd.mmm.yyyy”	display: 14.Apr.2012
#\D”ddd, dd.mmm.yyyy”	display: Sat, 14.Apr.2012

The format string must follow the command without space. If the format string is empty, the `DateTime` value is formatted as if a 'c' format specifier had been given. See the table below for information about the supported format strings.

In the following table, specifiers are given in lower case. Case is ignored in formats, except for the "am/pm" and "a/p" specifiers.

Specifier	Displays
c	Displays the date using the system <i>ShortDateFormat</i> , followed by the time using the system <i>LongTimeFormat</i> . The time is not displayed if the <i>DateTime</i> value indicates midnight precisely.
d	Displays the day as a number without a leading zero (1-31).
dd	Displays the day as a number with a leading zero (01-31).
ddd	Displays the day as an abbreviation (Sun-Sat) using the strings given by the system <i>ShortDayNames</i> .
dddd	Displays the day as a full name (Sunday-Saturday) using the strings given by the system <i>LongDayNames</i> .
dddddd	Displays the date using the format given by the system <i>ShortDateFormat</i> .
ddddddd	Displays the date using the format given by the system <i>LongDateFormat</i> .
e	Displays the year in the current period/era as a number without a leading zero (Japanese, Korean and Taiwanese locales only).
ee	Displays the year in the current period/era as a number with a leading zero (Japanese, Korean and Taiwanese locales only).
g	Displays the period/era as an abbreviation (Japanese and Taiwanese locales only).
gg	Displays the period/era as a full name. (Japanese and Taiwanese locales only).
m	Displays the month as a number without a leading zero (1-12). If the m specifier immediately follows an h or hh specifier, the minute rather than the month is displayed.
mm	Displays the month as a number with a leading zero (01-12). If the mm specifier immediately follows an h or hh specifier, the minute rather than the month is displayed.
mmm	Displays the month as an abbreviation (Jan-Dec) using the strings given by the system <i>ShortMonthNames</i> .
mmmm	Displays the month as a full name (January-December) using the strings given by the system <i>LongMonthNames</i> .

yy	Displays the year as a two-digit number (00-99).
yyyy	Displays the year as a four-digit number (0000-9999).
h	Displays the hour without a leading zero (0-23).
hh	Displays the hour with a leading zero (00-23).
n	Displays the minute without a leading zero (0-59).
nn	Displays the minute with a leading zero (00-59).
s	Displays the second without a leading zero (0-59).
ss	Displays the second with a leading zero (00-59).
z	Displays the millisecond without a leading zero (0-999).
zzz	Displays the millisecond with a leading zero (000-999).
t	Displays the time using the format given by the system <i>ShortTime</i> Format.
tt\	Displays the time using the format given by the system <i>LongTime</i> Format.
am/pm	Uses the 12-hour clock for the preceding h or hh specifier, and displays 'am' for any hour before noon, and 'pm' for any hour after noon. The am/pm specifier can use lower, upper, or mixed case, and the result is displayed accordingly.
a/p	Uses the 12-hour clock for the preceding h or hh specifier, and displays 'a' for any hour before noon, and 'p' for any hour after noon. The a/p specifier can use lower, upper, or mixed case, and the result is displayed accordingly.
ampm	Uses the 12-hour clock for the preceding h or hh specifier, and displays the contents of the system <i>TimeAMString</i> for any hour before noon, and the contents of the system <i>TimePMString</i> for any hour after noon.
'xx'	Characters enclosed in single quotes are displayed as-is, and do not affect formatting.

Det

Det returns the determinant of a 2x2 or 3x3 matrix. More information of determinants can be found at:

<http://en.wikipedia.org/wiki/Determinant>

Example: `d=det (A)`

Invx

Invx inverse a 2x2 or 3x3 matrix. If the matrix is not invertible, RedCrab displayed an error message. More information about inverted matrices can be found at:

http://en.wikipedia.org/wiki/Invertible_matrix

Example: `A1 = Invx (A)`

Definition of data fields

In definition of data fields you can optionally specify the increment of a range.

Example: `x = [2..5:0.75] = 2 2.75 3.5 4.25 5`