1 julian

1.1 Introduction to julian

`julian` returns the number of elapsed days since January 1, 4713 BC. Note that the conventional calendar changed in October 1582 due to the adoption of the Gregorian calendar. The algorithm is based on Peter Duffett-Smith "Astronomy with your personal computer", 2nd edition. In this algorithm, there is no year 0 B.C. The Macsyma tests is from Jean Meeus "Astronomical Algorithms", which uses a year 0 B.C. convention. Users should be careful when using years <=0.

1.2 Definitions for julian

`julian(`*`day`*`, `*`month`*`, `*`year`*`)` [Function]
Returns the Julian day number.

`modified_julian(`*`day`*`, `*`month`*`, `*`year`*`)` [Function]
Returns a modified Julian day number that is offset by 2.4 million days.

`julian1900(`*`day`*`, `*`month`*`, `*`year`*`)` [Function]
Returns the number of Julian days since 1900 A.D.

`julian1904(`*`day`*`, `*`month`*`, `*`year`*`)` [Function]
Returns the number of Julian days since 1904 A.D.

`iso8601(`*`day`*`, `*`month`*`, `*`year`*`)` [Function]
The iso8601 standard and the proleptic Gregorian calendar, extends the Gregorian calendar backward from 1582. Julian days start at noon in Greenwich on November 24, 4714 B.C.

`calendar(`*`julianDay`*`)` [Function]
Returns the [day, month, year] given a Julian day number.

`calendar8601(`*`julianDay`*`)` [Function]
Returns the [day, month, year] given a iso8601 day number.

`emacs_absolute_day(`*`day`*`, `*`month`*`, `*`year`*`)` [Function]
Returns an emacs day number given day, month, year.

`centuries_j2000(`*`jd`*`)` [Function]
Returns the number of centuries since 1 January 2000.

`sind(`*`x`*`)` [Function]
Returns sin of the argument given in degrees.

`cosd(`*`x`*`)` [Function]
Returns cos of the argument given in degrees.

`day` [Variable]
The day of the month.

`dec` [Variable]

Declination in degrees.

`E` [Variable]

Equation of time in minutes.

`jd` [Variable]

Julian day number.

`julianDay` [Variable]

Julian day number.

`month` [Variable]

month of year.

`T` [Variable]

(Fractional) number of centuries since 1 January 2000.

`UT` [Variable]

Universal time in hours.

`year` [Variable]

Year number.

Appendix A Function and variable index