1 Introduction

Functions:

flmoon: phases of the moon, calculate by date
julday: Julian day number, calculate by date
caldat: calendar date, calculate from Julian day number

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flmoon

Description:

This function calculates the Julian date (Greenwich Mean Time) of a phase of the moon, given the number of the phase since 1900.

flmoon(n, nph) $\longrightarrow$ [**jd, frac**]

Where:

n is the number of the phase,
nph is one of 0, 1, 2 3 representing the type of phase required where 0 represents a new moon, 1 the first quarter, 2 the full moon and 3 the last quarter,
jd is the Julian day number of the phase,
frac is a floating point number representing the fractional part of a day to be added to the Julian day.

Example:

This example computes the Julian day, and fraction of a day, of full moon number 1150 since the year 1900.

```
-> flmoon(1150,2)?
[2448996, 0.064176747]
```

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julday

Description:

This function calculates the Julian day number of a given day.

julday(mm, id, iyyy) $\longrightarrow$ **value**

Where:

mm is an integer representing the number of a month in a given year,
id is an integer representing the number of a day in a given month,
iyyy is an integer representing the year, where -1 is 1 BC and 1 is 1 AD,
value is an integer representing the Julian day number beginning at noon on the given date.

Example:

This example computes the Julian day number of January 8th 1993.

```
-> julday(1,8,1993)?
2448996
```

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caldat

Description:

This function calculates the calendar date given the Julian day number.

caldat(julian) $\longrightarrow$ [**mm, id, iyyy**]

Where:

julian is an integer being the Julian day number,
mm is an integer being the month of the year,
id is an integer being the day of the month,
iyyy is an integer being the year with 1 AD being 1.

Example:

This example computes the calendar date of Julian day number 2448996.

```
-> caldat(2448996)?
[1, 8, 1993]
```
