Subject: Re: HELP with systime()
Posted by safier on Wed, 11 Feb 1998 08:00:00 GMT
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>>>> > "Mark" == Mark Elliott <mark@mail.mmrrcc.upenn.edu> writes:

Mark> Is there a way to convert a binary time value like the one
Mark> returned by

Mark> timeval = systime(1)

Mark> into a date string like

Mark> DOW MON DD HH:MM:SS YEAR ?

Mark> I've found bin_date() but it accepts only the
Mark> ascii_time format for input. I'd like to convert the number
Mark> of seconds since 1/1/1970 into the month,day,year,... that
Mark> it corresponds to.

If you are on a unix system, you can use spawn and the Unix date
command:

```
spawn('date',mydate)
```

The output of date will be in mydate.

Hope this helps...

Pedro
--
Pedro N. Safier | "God offers to everyone his
Department of Astronomy | choice between truth and repose.
U. of Maryland at College Park | Take which you please--you can
phone: 301-405-1531; fax: 301-314-9067 | never have both." R. W. Emerson

Subject: Re: HELP with systime()
Posted by thompson on Wed, 11 Feb 1998 08:00:00 GMT
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Mark Elliott <mark@mail.mmrrcc.upenn.edu> writes:

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There are a number of time conversion routines available from

ftp://sohoftp.nascom.nasa.gov/solarsoft/gen/idl/time/

For example, the routine sec2utc can convert a time in seconds (ignoring leap seconds) to calculate the Modified Julian Day (MJD) number, and the number of milliseconds into the day. For example,

```
sec = systime(1)+40587.d0*86400.d0
utc = sec2utc(sec)
```

(40587 is the MJD of 1-Jan-1970, and 86400 is the number of seconds in a day.) The routine anytim2utc can then be used to convert this into a number of different formats. For example,

```
IDL> print,utc
{      50855    82039210}

IDL> print, anytim2utc(utc,/ccsds)
1998-02-11T22:47:19.210Z

IDL> print, anytim2utc(utc,/vms)
11-Feb-1998 22:47:19.210

IDL> help, /structure, anytim2utc(utc,/ext)
** Structure CDS_EXT_TIME, 7 tags, length=14:
   YEAR            INT          1998
   MONTH           INT             2
   DAY             INT            11
   HOUR            INT            22
   MINUTE          INT            47
   SECOND          INT            19
   MILLISECOND     INT           210
```

The routine utc2dow calculates the day-of-week. For example,

```
IDL> dow = ['Sun','Mon','Tue','Wed','Thu','Fri','Sat']
IDL> print, dow(utc2dow(utc))
Wed
```

There are also facilities for converting UTC time into TAI time, and vice-versa, with leap-seconds fully accounted for.

Bill Thompson

Subject: Re: HELP with systime()
Posted by Liam Gumley on Wed, 11 Feb 1998 08:00:00 GMT
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Mark Elliott wrote:
>
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http://fermi.jhuapl.edu/s1r/idl/s1rlib/time/time.html

is very useful and informative for this purpose.

Cheers,
Liam.

Subject: Re: HELP with systime()
Posted by Brian Jackel on Wed, 11 Feb 1998 08:00:00 GMT
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Mark Elliott asked:

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> into the month,day,year,... that it corresponds to.
>

A couple years ago I wrote some code to do what you're asking about. However, I recently discovered an easier way of doing things, using the CDF_EPOCH function, which is part of the Common Data Format library included with IDL. It can do two things

1) Given a year,month,day etc. return the time in milliseconds since a reference time (0 AD). Use this to find out when the standard Unix reference time started:

```
CDF_EPOCH,UnixEpoch,1970,1,1,0,0,0,/COMPUTE_EPOCH
```

2) Turn a reference time back into year, month, day etc. Add the number of milliseconds given by SYSTIME to the Unix reference time

```
CurrentEpoch= UnixEpoch + SYSTIME(1) * 1000.0d0
```

Then recover the information you want

```
CDF_EPOCH,CurrentEpoch,year,month,day,hour,minute,second, $
          /BREAKDOWN_EPOCH
```

which you can format as needed. Hope this helps. Oh, there's one little problem. The CDF stuff works in Universal Time, while SYSTIME tends to correct for the current time zone. Be careful...

Brian Jackel

Subject: Re: HELP with systime()
Posted by davidf on Wed, 11 Feb 1998 08:00:00 GMT
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Mark Elliott (mark@mail.mmrrcc.upenn.edu) writes:

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How about:

  Print, SysTime()

If you have your own binary date (say, Julian date), you
can convert it with CalDat.

Cheers,

David

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Fanning Software Consulting
E-Mail: davidf@dfanning.com
Phone: 970-221-0438
Coyote's Guide to IDL Programming: http://www.dfanning.com/