
Subject: Re: equivalent of c function: gmtime
Posted by [sjt](#) on Thu, 09 Jun 1994 09:02:08 GMT
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fitz@nextone.lanl.gov wrote:

: I understand that systime(arg) will return either the number of
: seconds elapsed from Jan 1, 1970 or a string with the current date
: and time. Does anyone know of procedures that are the equivalent
: of the C functions: gmtime, asctime, difftime, etc? In particular,
: given the seconds from Jan 1, 1970, is there a way to get a string
: giving the day, date, and time?

: ---

: Joe Fitzgerald
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This isn't exactly what you need in that it works from 1950.0 rather than
1970, but that should be easy to change.

function invsec, stime

```
;+
; INVSEC
; This function converts seconds since 1950.0 into year,day,hour,min, and
; sec.
;
; Call:
; time = invsec(stime)
;
; Return value:
; time float 5-element array with year, day, hour, min, sec
;
; Argument:
; stime double Seconds since 00:00 UT on 1 Jan 1950 AD.
;
; History:
; Original, converted from Fortran: 11/11/91; SJT
;-
```

sc = stime mod 60.d0

sec = float(sc)

```

min = long(stime)/60
hour = min/60
min = min mod 60
day = hour/24
hour = hour mod 24
year = day/365                ; Warning this will not work after
                             ; about 3400 or 3500 AD (when there
                             ; have been 365 leap years).

day = (day mod 365) - (year+1)/4    ; Won't work after 2100
if (day lt 0) then begin
    year = year - 1
    day = day + 365 + ((year+2) mod 4 eq 0)    ; Won't work after 2100
endif

day = day + 1
year = year + 1950

return, float([year, day, hour, min, sec])

end

--
James Tappin, School of Physics & Space Research
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"If all else fails--read the instructions!"

O
-- V

```

Subject: Re: equivalent of c function: gmtime
 Posted by [thompson](#) on Thu, 09 Jun 1994 13:24:36 GMT
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fitz@nextone.lanl.gov writes:

> I understand that systime(arg) will return either the number of seconds
 > elapsed from Jan 1, 1970 or a string with the current date and time. Does
 > anyone know of procedures that are the equivalent of the C functions: gmtime,
 > asctime, difftime, etc? In particular, given the seconds from Jan 1, 1970, is
 > there a way to get a string giving the day, date, and time?

I have a number of time handling routines that will do the job for you. I've
 asked Wayne Landsman to put it on the anonymous ftp server
 idlastro.gsfc.nasa.gov under contrib/thompson/time. Unfortunately, what's
 there now is tremendously out of date, but it should be updated soon. (In

particular, what is missing is the routine that calls SYSTIME and interprets the seconds as a date and time. I could also mail it to you as a uuencoded tar file if you don't want to wait.

One thing that one should be aware of. On Unix systems the string time returned by SYSTIME() in IDL is a local time, whereas the numerical time is related to UTC (aka GMT). I think this is also true on VMS systems. However, on VMS and (I think) MacIntosh computers, it seems that both times are local.

Bill Thompson
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