## Subject: Re: equivalent of c function: amtime Posted by sit on Thu, 09 Jun 1994 09:02:08 GMT

View Forum Message <> Reply to Message

```
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

: MS D466

: Los Alamos National Laboratory

: Los Alamos, New Mexico 87545

: phone 505-667-1542

: fax 505-665-7395

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, hourm 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
dav = 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 It 0) then begin
  vear = vear - 1
  day = day + 365 + ((year+2) \mod 4 eq 0); Won't work after 2100
endif
day = day + 1
vear = vear + 1950
return, float([year, day, hour, min, sec])
end
James Tappin, School of Physics & Space Research
 University of Birmingham
sit@xun8.sr.bham.ac.uk
 "If all else fails--read the instructions!"
```

Subject: Re: equivalent of c function: gmtime Posted by thompson on Thu, 09 Jun 1994 13:24:36 GMT View Forum Message <> Reply to Message

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 William.T.Thompson.1@gsfc.nasa.gov