
Subject: Re: Computing Time
Posted by [Brian Jackel](#) on Fri, 17 Mar 2000 08:00:00 GMT
[View Forum Message](#) <> [Reply to Message](#)

loeh@my-deja.com wrote:

>
> Hi,
> I have a couple of measurements and like to calculate the time between
> them. But I am not sure which routine to use.

I've been using CDF_EPOCH for things like this. It lets you convert year,month,day,hour,minute,second to a double precision value of the number of milliseconds since Jan01/0000 and back again.

Brian

Subject: Re: Computing Time
Posted by [Liam E. Gumley](#) on Fri, 17 Mar 2000 08:00:00 GMT
[View Forum Message](#) <> [Reply to Message](#)

loeh@my-deja.com wrote:

> I have a couple of measurements and like to calculate the time between
> them. But I am not sure which routine to use.
> I tried the following but the result is confusing
> IDL> diff=JULDAY(3,17,2000,17,30,22)-JULDAY(3,17,2000,15,22,17)
> IDL> print,diff
> 0.088946760
> IDL> CALDAT, diff, Month, Day, Year, Hour, Minute, Second
> IDL> PRINT, Month, Day, Year, Hour, Minute, Second
> 1 1 -4713 14 8
> 5.0000381

I recommend the JHU/APL time routines:
<http://fermi.jhuapl.edu/s1r/idl/s1r/lib/time/time.html>

Cheers,
Liam.
<http://cimss.ssec.wisc.edu/~gumley>

Subject: Re: Computing Time
Posted by [Craig Markwardt](#) on Mon, 20 Mar 2000 08:00:00 GMT
[View Forum Message](#) <> [Reply to Message](#)

Martin Schultz <martin.schultz@dkrz.de> writes:

>
> JULDAY will give you fractional days as an answer. To convert this back
> into
> days, hours, minutes, etc., you can do:
> days = fix(diff) ; or long() if you desire
> hour = fix((diff-days)*24.)
> minute = fix((diff-days-hour/24.)*1440.)
> second = fix((diff-days-hour/24.-minute/1440.)*86400.)
> just that you may run into roundoff problems here or there. And this is
> why you should probably follow Liam's advice and use the JHU APL
> routines.

Would it be wiser to use FLOOR() instead of FIX(), to handle negative time differences? This always gets a little sticky.

Craig

--

Craig B. Markwardt, Ph.D. EMAIL: craigmnet@cow.physics.wisc.edu
Astrophysics, IDL, Finance, Derivatives | Remove "net" for better response

Subject: Re: Computing Time
Posted by [Martin Schultz](#) on Mon, 20 Mar 2000 08:00:00 GMT
[View Forum Message](#) <> [Reply to Message](#)

loeh@my-deja.com wrote:

>
> Hi,
> I have a couple of measurements and like to calculate the time between
> them. But I am not sure which routine to use.
> I tried the following but the result is confusing
> IDL> diff=JULDAY(3,17,2000,17,30,22)-JULDAY(3,17,2000,15,22,17)
> IDL> print,diff
> 0.088946760
> IDL> CALDAT, diff, Month, Day, Year, Hour, Minute, Second
> IDL> PRINT, Month, Day, Year, Hour, Minute, Second
> 1 1 -4713 14 8
> 5.0000381
> Thanks for help
> Mirko
>

JULDAY will give you fractional days as an answer. To convert this back

into

days, hours, minutes, etc., you can do:

days = fix(diff) ; or long() if you desire

hour = fix((diff-days)*24.)

minute = fix((diff-days-hour/24.)*1440.)

second = fix((diff-days-hour/24.-minute/1440.)*86400.)

just that you may run into roundoff problems here or there. And this is why you should probably follow Liam's advice and use the JHU APL routines.

Cheers,
Martin

PS: and to save you from likely headaches: always use DOUBLE if you deal with time variables (except maybe for storing them in a file)

--

```
[[ Dr. Martin Schultz  Max-Planck-Institut fuer Meteorologie  [[  
[[          Bundesstr. 55, 20146 Hamburg          [[  
[[          phone: +49 40 41173-308          [[  
[[          fax: +49 40 41173-298          [[  
[[ martin.schultz@dkrz.de          [[  
[[          Bundesstr. 55, 20146 Hamburg          [[
```