Subject: Re: Computing Time
Posted by Brian Jackel on Fri, 17 Mar 2000 08:00:00 GMT
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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
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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/s1rlib/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
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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

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Craig B. Markwardt, Ph.D. EMAIL: craigmnet@cow.physics.wisc.edu
Astrophysics, IDL, Finance, Derivatives | Remove "net" for better response
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Subject: Re: Computing Time
Posted by Martin Schultz on Mon, 20 Mar 2000 08:00:00 GMT
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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.
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> IDL> diff=JULDAY(3,17,2000,17,30,22)-JULDAY(3,17,2000,15,22,17)
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> 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)

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