Subject: CalDat
Posted by Ben Tupper on Tue, 15 May 2001 19:07:18 GMT
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Hello,

I think I have found bugs in the the CalDat procedure. I thought it best to run it by here before contacting RSI.

This is from the online help:

> ... use something like:
> CALDAT, 2529161.36, Month, Day, Year, Hour, Minute, Second
> PRINT, Month, Day, Year, Hour, Minute, Second
>

Here are my observations:

1) Unless the Julian Day Number is double precision, the minute and hour are always zero.
2) I don't believe the hour is correctly determing when the Julian Day number is provided as single precision.
If the Julian Day begins at 1200 on a given day, then 0.36 * 24 + 12 = 20.6 (fraction of day * hours per day + offset = hour number of day)

As single precision:

```
IDL> CALDAT, 2529161.36, Month, Day, Year, Hour, Minute,
Second
IDL> PRINT, Month, Day, Year, Hour, Minute, Second
         7         4       2212         18
0      0.00000000
```

As double precision:

```
IDL> CALDAT, 2529161.36d, Month, Day, Year, Hour, Minute,
Second
IDL> PRINT, Month, Day, Year, Hour, Minute, Second
         7         4       2212         20
38       23.999989
```

As long integer:

```
IDL> CALDAT, 2529161L, Month, Day, Year, Hour, Minute,
Second
IDL> PRINT, Month, Day, Year, Hour, Minute, Second
```

```
         7         4       2212         12
0      0.00000000
```

I hope some folks will confirm this result on other machines
before I send along a bug report to RSI; perhaps this has
been noted before.

```
IDL> print, !version
{ x86 Win32 Windows 5.4 Sep 25 2000      32      64}
```

Thanks,

Ben
--
Ben Tupper
248 Lower Round Pond Road
POB 106
Bristol, ME 04539

Tel: (207) 563-1048
Email: PemaquidRiver@tidewater.net

Subject: Re: CalDat
Posted by R.G.S. on Wed, 16 May 2001 16:59:42 GMT
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Ben Tupper <pemaquidriver@tidewater.net> wrote in message
news:3B017E66.BD5C9F6D@tidewater.net...
> Hello,
>
>
> 1) Unless the Julian Day Number is double precision, the
> minute and hour are always zero.
> 2) I don't believe the hour is correctly determing when
> the Julian Day number is provided as single precision.
> If the Julian Day begins at 1200 on a given day, then 0.36 *
> 24 + 12 = 20.6 (fraction of day * hours per day + offset =
> hour number of day)

I don't think it is a bug. Single precision numbers only give you
0.25 in terms of julian days

Check out the following code

```
print,'Singl prec #:'
print,float(2529161.36d),format='(f50.25)'

CALDAT,2529161.36d, Month, Day, Year, Hour, Minute,Second
PRINT, 'Doubl:        ',Month, Day, Year, Hour, Minute, Second

CALDAT, 2529161.36, Month, Day, Year, Hour, Minute,Second
PRINT, 'Float:         ',Month, Day, Year, Hour, Minute, Second

CALDAT, 2529161.25d, Month, Day, Year, Hour, Minute,Second
PRINT, 'Round Doub:',Month, Day, Year, Hour, Minute, Second

print,'Next Singl prec #:'
print,float(2529161.45d),format='(f50.25)'

CALDAT,2529161.45d, Month, Day, Year, Hour, Minute,Second
PRINT, 'Doubl:        ',Month, Day, Year, Hour, Minute, Second

CALDAT, 2529161.45, Month, Day, Year, Hour, Minute,Second
PRINT, 'Float:         ',Month, Day, Year, Hour, Minute, Second

CALDAT, 2529161.5d, Month, Day, Year, Hour, Minute,Second
PRINT, 'Round Doub:',Month, Day, Year, Hour, Minute, Second

;****************** Results Below ****************************************


Singl prec #:
          2529161.2500000000000000000000000
Doubl:             7        4      2212        20
38      23.999989
Float:             7        4      2212        18
0      0.00000000
Round Doub:        7        4      2212        18        0
0.00000000

Next Singl prec #:
          2529161.5000000000000000000000000
Doubl:             7        4      2212        22
48  1.6093257e-005
Float:             7        5      2212         0
0      0.00000000
Round Doub:        7        5      2212         0        0
0.00000000
```

Cheers,
bob stockwell