Subject: Dates conversions
Posted by lucesmm on Thu, 05 Nov 2015 18:47:27 GMT
View Forum Message <> Reply to Message

Hello I have a problem and I am trying to see if IDL can solve this

I have an initial date
08/05/2012 05:14:39

and then my data is arrange in days and fractions of days
 DAY
9.77013   -> meaning 9.77013 days after the initial date
9.77037
9.77060
9.77083
9.77106
9.77130
9.77153
9.77175
9.77199
9.77222
9.77245

is there a way that IDL can help me to convert each point to real date and time given the start date and time ?

Thanks

Subject: Re: Dates conversions
Posted by Michael Galloy on Thu, 05 Nov 2015 23:02:46 GMT
View Forum Message <> Reply to Message

On 11/05/2015 11:47 AM, lucesmm@gmail.com wrote:
> Hello I have a problem and I am trying to see if IDL can solve this
>
> I have an initial date
> 08/05/2012 05:14:39
>
> and then my data is arrange in days and fractions of days
> DAY
> 9.77013   -> meaning 9.77013 days after the initial date
> 9.77037
> 9.77060
> 9.77083
> 9.77106
> 9.77130

> 9.77153
> 9.77175
> 9.77199
> 9.77222
> 9.77245
>
> is there a way that IDL can help me to convert each point to real
> date
and time given the start date and time ?
>
>
> Thanks
>

Yes, convert to Julian days:

```
IDL> dates = [9.77013, 9.77037, 9.77060, 9.77083, 9.77106, 9.77130,
9.77153, 9.77175, 9.77199, 9.77222, 9.77245]
IDL> jd = julday(8, 5, 2012, 5, 14, 39)
% Compiled module: JULDAY.
IDL> jdates = jd + dates
IDL> caldat, jdates, months, days, years, hours, minutes, seconds
% Compiled module: CALDAT.
IDL> print, hours
        23        23        23        23        23
23         23
        23        23        23        23
IDL> print, minutes
        43        43        44        44        44
45         45
        45        46        46        46
IDL> print, seconds
      38.245639      58.927402      18.867587      38.725375
58.583163
      19.347323      39.205112      58.238925      18.920688
38.778476
      58.718661
```

Mike
--
Michael Galloy
www.michaelgalloy.com
Modern IDL: A Guide to IDL Programming (http://modernidl.idldev.com)

Subject: Re: Dates conversions
Posted by Dick Jackson on Thu, 05 Nov 2015 23:08:15 GMT

On Thursday, 5 November 2015 10:47:30 UTC-8, luc...@gmail.com wrote:
> Hello I have a problem and I am trying to see if IDL can solve this
>
> I have an initial date
> 08/05/2012 05:14:39
>
> and then my data is arrange in days and fractions of days
> DAY
> 9.77013 -> meaning 9.77013 days after the initial date
> 9.77037
> 9.77060
> 9.77083
> 9.77106
> 9.77130
> 9.77153
> 9.77175
> 9.77199
> 9.77222
> 9.77245
>
> is there a way that IDL can help me to convert each point to real date and time given the start date and time ?
>
>
> Thanks

This should do it.

```
d0Str = '08/05/2012 05:14:39'

;; Assuming mm/dd/yyyy: correct?

d0Jul = 0.0D                    ; Initialize to Double for millisecond accuracy
ReadS, d0Str, d0Jul, $
  Format='(C(CMOI2,X,CDI2,X,CYI4,X,CHI2,X,CMI2,X,CSI2))'

dOffsets = [9.77013, 9.77037, 9.77060, 9.77083, 9.77106, 9.77130, 9.77153, $
          9.77175, 9.77199, 9.77222, 9.77245]

dJuls = d0Jul + dOffsets

Print, [d0Jul, dJuls], $
  Format='(C(CMOI2.2,"/",CDI2.2,"/",CYI4.4,X,CHI2.2,":",CMI2.2, ":",CSI2.2))'
```

For output, I get:

08/05/2012 05:14:39
08/14/2012 23:43:38
08/14/2012 23:43:58
08/14/2012 23:44:18
08/14/2012 23:44:38
08/14/2012 23:44:58
08/14/2012 23:45:19
08/14/2012 23:45:39
08/14/2012 23:45:58
08/14/2012 23:46:18
08/14/2012 23:46:38
08/14/2012 23:46:58

Those are truncated seconds, by the way. For more precision (which may be illusory):

```
Print, [d0Jul, dJuls], $
  Format='(C(CMOI2.2,"/",CDI2.2,"/",CYI4.4,X,CHI2.2,":",CMI2.2, ":",CSF6.3))'
```

08/05/2012 05:14:39.000
08/14/2012 23:43:38.232
08/14/2012 23:43:58.968
08/14/2012 23:44:18.840
08/14/2012 23:44:38.712
08/14/2012 23:44:58.584
08/14/2012 23:45:19.320
08/14/2012 23:45:39.192
08/14/2012 23:45:58.200
08/14/2012 23:46:18.936
08/14/2012 23:46:38.808
08/14/2012 23:46:58.680

Dick Jackson Software Consulting Inc.
Victoria, BC, Canada --- http://www.d-jackson.com

Subject: Re: Dates conversions
Posted by Dick Jackson on Thu, 05 Nov 2015 23:15:40 GMT
View Forum Message <> Reply to Message

On Thursday, 5 November 2015 15:08:18 UTC-8, Dick Jackson wrote:
> This should do it.
>
> d0Str = '08/05/2012 05:14:39'
>
> ;; Assuming mm/dd/yyyy: correct?
>
> d0Jul = 0.0D ; Initialize to Double for millisecond accuracy

```
>  ReadS, d0Str, d0Jul, $
>     Format='(C(CMOI2,X,CDI2,X,CYI4,X,CHI2,X,CMI2,X,CSI2))'
>
>  dOffsets = [9.77013, 9.77037, 9.77060, 9.77083, 9.77106, 9.77130, 9.77153, $
>              9.77175, 9.77199, 9.77222, 9.77245]
>
>  dJuls = d0Jul + dOffsets
>
>  Print, [d0Jul, dJuls], $
>     Format='(C(CMOI2.2,"/",CDI2.2,"/",CYI4.4,X,CHI2.2,":",CMI2.2, ":",CSI2.2))'
```

As you can see (Hi, Mike!), there's a couple of ways to go about it. I should have made it clear that the variables "d0Jul" and "dJuls" were referring to Julian Day numbers for your "day 0" and the set of date/times that you're computing from the offsets. For more, see:

http://exelisvis.com/docs/Date_Time_Data.html
http://exelisvis.com/docs/Format_Codes.html#files_2839720996 _2823814

Cheers,
-Dick

Dick Jackson Software Consulting Inc.
Victoria, BC, Canada --- http://www.d-jackson.com

Subject: Re: Dates conversions
Posted by lucesmm on Thu, 05 Nov 2015 23:29:16 GMT
View Forum Message <> Reply to Message

On Thursday, November 5, 2015 at 3:02:49 PM UTC-8, Mike Galloy wrote:

```
>>  Hello I have a problem and I am trying to see if IDL can solve this
>>
>>  I have an initial date
>>  08/05/2012 05:14:39
>>
>>  and then my data is arrange in days and fractions of days
>>    DAY
>>  9.77013   -> meaning 9.77013 days after the initial date
>>  9.77037
>>  9.77060
>>  9.77083
>>  9.77106
>>  9.77130
>>  9.77153
>>  9.77175
>>  9.77199
>>  9.77222
```

>> 9.77245
>>
>> is there a way that IDL can help me to convert each point to real
>> date
> and time given the start date and time ?
>>
>>
>> Thanks
>>
>
> Yes, convert to Julian days:
>
> IDL> dates = [9.77013, 9.77037, 9.77060, 9.77083, 9.77106, 9.77130,
> 9.77153, 9.77175, 9.77199, 9.77222, 9.77245]
> IDL> jd = julday(8, 5, 2012, 5, 14, 39)
> % Compiled module: JULDAY.
> IDL> jdates = jd + dates
> IDL> caldat, jdates, months, days, years, hours, minutes, seconds
> % Compiled module: CALDAT.
> IDL> print, hours
> 23 23 23 23 23
> 23 23
> 23 23 23 23
> IDL> print, minutes
> 43 43 44 44 44
> 45 45
> 45 46 46 46
> IDL> print, seconds
> 38.245639 58.927402 18.867587 38.725375
> 58.583163
> 19.347323 39.205112 58.238925 18.920688
> 38.778476
> 58.718661
>
> Mike
> --
> Michael Galloy
> www.michaelgalloy.com
> Modern IDL: A Guide to IDL Programming (http://modernidl.idldev.com)

Thank you Mike, I was half way there already with the JulDay ... but I didn't know I could just add them up after!