Subject: Leap Seconds and JULDAY()
Posted by MarioIncandenza on Wed, 08 Jul 2015 22:23:33 GMT
View Forum Message <> Reply to Message

Hello IDL wizards!

I have data timestamped with "seconds-since-epoch," in this case the epoch is 1/1/1993 00:00.

My results had been 8 seconds off, which I never noticed, but then last week, I started to have problems, and found my results were 9 seconds off.

My method is this:

EPOCH=JULDAY(1,1,1993,0,0,0)
SECONDS_IN_A_DAY = DOUBLE(24l*60*60)
TIMESTAMP_UTC = EPOCH + (EPOCH_SECONDS/SECONDS_IN_A_DAY)

This gives the wrong answer, because JULDAY() doesn't have epoch seconds. This makes me sad, though there may be some detailed reason why it shouldn't.

--Edward H.

Subject: Re: Leap Seconds and JULDAY()
Posted by Craig Markwardt on Wed, 08 Jul 2015 23:35:18 GMT
View Forum Message <> Reply to Message

On Wednesday, July 8, 2015 at 6:23:36 PM UTC-4, Edward Hyer wrote:
> Hello IDL wizards!
>
> I have data timestamped with "seconds-since-epoch," in this case the epoch is 1/1/1993 00:00.
>
> My results had been 8 seconds off, which I never noticed, but then last week, I started to have problems, and found my results were 9 seconds off.
>
> My method is this:
>
> EPOCH=JULDAY(1,1,1993,0,0,0)
> SECONDS_IN_A_DAY = DOUBLE(24l*60*60)
> TIMESTAMP_UTC = EPOCH + (EPOCH_SECONDS/SECONDS_IN_A_DAY)
>
> This gives the wrong answer, because JULDAY() doesn't have epoch seconds. This makes me sad, though there may be some detailed reason why it shouldn't.

So what is your question? Sadness is a state of being. :-)

But maybe you want to try my TAI_UTC() function?

Craig

Subject: Re: Leap Seconds and JULDAY()
Posted by natha on Thu, 09 Jul 2015 15:47:32 GMT
View Forum Message <> Reply to Message

Could this be related to the one-second adjustment that is occasionally applied in order to keep its time of day close to the mean solar time?

https://en.wikipedia.org/wiki/Leap_second

We had this adjustment 9 times since 1993 and the last one was last week!