
Subject: Re: BYTES to LONG

Posted by [Kelly Dean](#) on Tue, 07 Nov 2000 08:00:00 GMT

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Doing a POINT_LUN, then ReadU them in as LONG works.

I am testing a method were I reading in the whole at once, then loop though it later.

Kelly

Med Bennett wrote:

> If your variables for holding X and Y are of the correct type, you should be
> able to read up to or point_lun to the proper place in the file, and then
> read them in directly using the READU command. It helps to have a hex
> editor/viewer to figure out the offsets into the file that you are looking
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Subject: Re: BYTES to LONG

Posted by [Paul van Delst](#) on Tue, 07 Nov 2000 08:00:00 GMT

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"J.D. Smith" wrote:

>
> Paul van Delst wrote:
>>
>> For some reason the TOTAL returned a floating point number? Weird. Never noticed that
>> before.
>>
>
> The total() function always converts to floating point before the sum,
> to avoid overflow issues. Consider:
>

> a=total(bindgen(256))
>
> if it did the total as bytes, that would overflow. Of course, it could
> have done them as regular ints, but how should it decide, a priori? I
> for one use total a lot in testing various conditions, and it always
> bothered me that I had to test the floating result, but there's really
> no other clean solution.

You're absolutely right, of course. I've spent the last month writing a crapload of f90 code so when I saw a type that isn't what I thought I had declared it, I momentarily freaked.

--

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Subject: Re: BYTES to LONG
Posted by [John-David T. Smith](#) on Tue, 07 Nov 2000 08:00:00 GMT
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Paul van Delst wrote:

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>> Kelly
>
> If I understand your question correctly,
>
> if
>
> x = [0B, 1B, 1B, 1B]
>
> then long_x = TOTAL(ISHFT(LONG(x), [24,16,8,0]))
>
> ??

>
> This gave me long_x = 65793.0 = 65536 + 256 + 1 which seems correct, no?
>
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The total() function always converts to floating point before the sum,
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JD

--

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Subject: Re: BYTES to LONG
Posted by [davidf](#) on Tue, 07 Nov 2000 08:00:00 GMT
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Kelly Dean (krdean@lamar.colostate.edu) writes:

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This is the purpose of the Offset parameter in the LONG
function. If you use an offset into a byte array, it will
then extract the next 4 bytes as a long integer.

Here is a little example program to show you how it works.
The important part is where the byteValues are converted

to LONGs:

PRO TEST

```
data = [1L, 4L, 8L, 12L]
OpenW, lun, 'test.dat', /Get_Lun
WriteU, lun, data
Free_Lun, lun
```

```
byteValues = BytArr(16)
OpenR, lun, 'test.dat', /Get_Lun
ReadU, lun, byteValues
Free_Lun, lun
```

```
longValues = LonArr(4)
For j=0,3 DO longValues[j] = Long(byteValues, j*4)
Print, longValues
```

END

Cheers,

David

--

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Coyote's Guide to IDL Programming: <http://www.dfanning.com/>
Toll-Free IDL Book Orders: 1-888-461-0155

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??

This gave me long_x = 65793.0 = 65536 + 256 + 1 which seems correct, no?

For some reason the TOTAL returned a floating point number? Weird. Never noticed that before.

Hmm.

You could also just add the requisite power of two to each individual element before totaling also. Dunno if either works with a sign bit.

paulv

--

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Subject: Re: BYTES to LONG

Posted by [Med Bennett](#) on Tue, 07 Nov 2000 08:00:00 GMT

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Subject: Re: BYTES to LONG

Posted by [Paul van Delst](#) on Wed, 08 Nov 2000 08:00:00 GMT

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Kelly Dean wrote:

>
> Thanks Paul,
>
> Your suggestion solved my problem.
>
> long_x = TOTAL(ISHFT(LONG(x), [24,16,8,0]))
>
> It converted the 4 Bytes into a LONG UTM number.

Wow. I posted a useful solution...excuse me while I get up from the floor! :o)

I have to admit, I treated your question as a little IDL exercise rather than think a bit harder and ask a few more questions to help you solve your problem. If, as Med Bennett suggested, you can read the data in as a LONG, isn't that a better method? Or didn't that work for you? I have no idea what the format of a USGS SDTS file is so it may be a braindead question.

paulv

--

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Subject: Re: BYTES to LONG

Posted by [Kelly Dean](#) on Wed, 08 Nov 2000 08:00:00 GMT

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Thanks Paul,

Your suggestion solved my problem.

long_x = TOTAL(ISHFT(LONG(x), [24,16,8,0]))

It converted the 4 Bytes into a LONG UTM number.

Sorry Dave, I couldn't get your suggestion to work.

I still have some problems with some values, but these USGS SDTS files have the Spatial Addresses scattered around my positioning maybe off on a few locations. I suspect there maybe a record delimiter in the file that I need to remove or skip over.

I'll post my routine once I solve my problem.

Kelly
