
Subject: byteorder for float numbers conversion
Posted by [yafeng](#) on Tue, 04 Feb 1997 08:00:00 GMT
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I want to convert the float numbers from UNIX format(big-edian) to PC format(small-edian). For example, I have a float array data(420)

None of these commands worked:
byteorder, data
byteorder, data, /xdrtof
byteorder, data, /ftoxdrt

I can write the C program to do it but my file is the IDL structure so I like to solve this problem in IDL too.

Thanks.

P.S: Does anybody has the IDL program drawing topographic map for EEG(ERP) data? Thanks a lot.

Yafeng Li

Subject: Re: byteorder for float numbers conversion
Posted by [Thomas A. McGlynn](#) on Thu, 06 Feb 1997 08:00:00 GMT
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Peter Suetterlin wrote:

>
> In article <5d8mo8\$N98@elaine44.stanford.edu>,
> yafeng@leland.Stanford.EDU (Meili Zhong) writes:
>
>> I want to convert the float numbers from UNIX format(big-edian)
>> to PC format(small-edian). For example, I have a float array
>> data(420)
>
> byteorder, data, /lswap
>
> Or have a look at the /XDR Keyword for opening files.
>
> Peter
>
> Peter "Pit" Suetterlin

I've had lots of problems with the byteorder routine. It's been broken on a number of versions of IDL on Dec hardware

and some PC versions.

If you actually know that you just want to invert data of a given type you can do things like:

```
float x[100];  
qinvers = float(rotate(byte(x,0,4,100),5),0,100)
```

to invert bytes. You can look at the IDL astronomy library routines `host_to_ieee` and `ieee_to_host` at

<http://idlastro.gsfc.nasa.gov/ftp/pro/misc>

to see if any machines/IDL versions you're interested in have errors in their byteorder implementations. There do seem to be some problems indicated for linux and Windows versions of IDL. These routines try to take care of these little gotcha's in a generic way.

Good luck,

Tom McGlynn
tam@silks.gsfc.nasa.gov

Subject: Re: byteorder for float numbers conversion
Posted by [Liam Gumley](#) on Tue, 18 Feb 1997 08:00:00 GMT
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William Connolley wrote:

```
> In article n98@elaine44.Stanford.EDU, yafeng@leland.Stanford.EDU (Meili Zhong) writes:  
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>> None of these commands worked:  
>> byteorder, data  
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>> byteorder, data, /ftoxdr  
> To go from SUN-floating-point to DECalpha-floating-point I use  
> byteorder,data,/lswap
```

`SWAP_ENDIAN` works for me, e.g.

```
data = swap_endian( temporary( data ) )
```

It handles floating point as well as integer types.

Cheers,

Liam.

Subject: Re: byteoder for float numbers conversion

Posted by [pit](#) on Tue, 18 Feb 1997 08:00:00 GMT

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In article <5ebvgk\$K1d@kwuz.nerc-keyworth.ac.uk>,
wmc@bsfiles.nerc-bas.ac.uk (William Connolley) writes:

>> I want to convert the float numbers from UNIX format(big-edian)
>> to PC format(small-edian).

> To go from SUN-floating-point to DECalpha-floating-point I use
> byteorder,data,/lswap
>
> It might work for you in this case.
> xdr doesn't sound right to me.

Why not? Of course you also have to write the data using /XDR.
This is the easiest way to keep code *and* data platform-independent.

> ps - PCs are the spawn of the devil. Why not leave your data on unix
> where it will be happy? ;-)

You're mixing things up. Little Endian is a *hardware* thing. It has
nothing to do with the OS you are running. IDL for Linux is still LE.
We have a mixed cluster here (SunOS, HP-UX, Linux), all Unix. Still
there is the Big/Little Endian problem.

Peter

--

~~~~~  
~~~~~  
Peter "Pit" Suetterlin http://www.uni-sw.gwdg.de/~pit
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Tel.: +49 551 39-5048 pit@uni-sw.gwdg.de

-- * -- * ...-- * -- * ...-- * -- * ...-- * -- * ...-- * -- * ...-- * --
Come and see the stars! http://www.kis.uni-freiburg.de/~ps/SFB
Sternfreunde Breisgau e.V. Tel.: +49 7641 3492

Subject: Re: byteoder for float numbers conversion

Posted by [wmc](#) on Tue, 18 Feb 1997 08:00:00 GMT

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In article n98@elaine44.Stanford.EDU, yafeng@leland.Stanford.EDU (Meili Zhong) writes:
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ps - PCs are the spawn of the devil. Why not leave your data on unix where
it will be happy? ;-)

William M Connolley | wmc@bas.ac.uk | <http://www.nbs.ac.uk/public/icd/wmc/>
Climate Modeller, British Antarctic Survey | Disclaimer: I speak for myself
