
Subject: Re: Converting Byte Arrays

Posted by [Liam Gumley](#) on Mon, 06 Oct 1997 07:00:00 GMT

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Thomas Price wrote:

> I am struggling with a file i/o problem. I have a data file which comes
> from a PC. I know the data structure in terms of how many bytes correspond
> to each entry in the file and what file type for each of these entries
> (i.e. integer, real, etc). Generally, I two bytes into a variable for a
> integer and 4 bytes for a real. I can convert the integers simply enough.
> For a variable named id which is a bytarr(2) the integer is simply
> 256*id(1)+id(0). However, how can I convert the 4 byte arrays which are
> floats into the proper numbers? I seem to come up with gibberish if I do a
> simple float(val) where val=bytarr(4).

One way to read a data file with mixed variable types (integers, floats) is by using an anonymous structure, e.g.

```
record = { var1:0, var2:0L, var3:0.0 }  
openr, lun, file, /get_lun  
readu, lun, record  
free_lun, lun  
help, record.var1, record.var2, record.var3
```

will read the first three variables from the file, where
var1 is a 16 bit signed integer,
var2 is a 32 bit signed integer,
var3 is a 32 bit float.

If you need to swap bytes to go from PC to Unix, just do

```
record = swap_endian( record )  
help, record.var1, record.var2, record.var3
```

If you have many similar records to read, then you can use

```
data = make_array( nrecords, value = record )
```

to make an array of structures, and then read this array in one hit.

Cheers,
Liam.
