Subject: Re: Double-Precision Byte Swap
Posted by Peter Mason on Tue, 28 Apr 1998 07:00:00 GMT
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On 28 Apr 1998, R. Kyle Justice wrote:
> Using PV-Wave in UNIX, is there a way to read
> double-precision floating point data generated
> on a PC?
> I think I need something something similar to
> the BYTEORDER procedure, but I need to (or do I?)
> swap 8 instead of 4 bytes.

Assuming that the data are IEEE double-precision (almost certainly), yes, you
just need to reverse the order of each number's 8 bytes.
(But note that if it's Digital Unix that you're using then you should NOT
re-order.)

I don't use PV-Wave, but here's a little IDL routine for the job:

```
;================================
  ; Reverse the byte order of a whatever
  pro byterev,v
  j=size(v) &nj=n_elements(j) &t=j(nj-2) &n=j(nj-1)
  if (t le 1) or (t ge 7) then return   ;undefined, or inappropriate type
  case t of
   2:byteorder,v,/sswap    ;short
   3:byteorder,v,/lswap    ;long
   4:byteorder,v,/lswap    ;float
   5:begin &for i=0L,n-1L do v(i)=double(rotate(byte(v(i),0,8),2),0) &end  ;double
   6:byteorder,v,/lswap    ;complex (it works, too!)
  endcase
  return
  end
;================================
```

Peter Mason

Subject: Re: Double-Precision Byte Swap
Posted by rkj on Wed, 29 Apr 1998 07:00:00 GMT
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R. Kyle Justice (rkj@dukebar.crml.uab.edu) wrote:
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: : Peter Mason

: Works like a charm! This ought to be in the user library.

: Thanks.

: Kyle

Actually, a similar routine (wbyteorder.pro) is indeed in the pv-wave
user library. I guess I didn't look hard enough . . . but I still like
the elegance of this solution.

Kyle

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Posted by rkj on Wed, 29 Apr 1998 07:00:00 GMT
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