Subject: Re: 4-bit words
Posted by rivers on Thu, 21 Dec 1995 08:00:00 GMT
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In article <DJw3nF.D8n@rockyd.rockefeller.edu>, orbach@rockvax.rockefeller.edu (Darren Orbach) writes:
> I have a file that consists of a 256*256 array of 4-bit
> words created in another application, written as a binary
> file. I need to manipulate this array by shifting these
> 4-bit elements to the right by various amounts, and wrapping
> around to the other side of the array. However, since the
> smallest data type in WAVE or IDL is a full byte, I don't see
> a straightforward way to do this. Any suggestions?

I am assuming that your data files have the 4-bit values packed together. If so then the following should create the array you want:

```
; Make a 1-D byte array big enough to hold image from disk
IDL> temp = bytarr(2L^15)
; Read in the data
IDL> readu, lun, temp
; Make new array to hold decomposed data
IDL> data = bytarr(2, 2L^15)
; Low order 4 bits in even elements
IDL> data(0,*) = (temp and '00FF'X)
; High order 4 bits in odd elements
IDL> data(1,*) = (temp/16 and '00FF'X)
; Reform into 256x256 array
IDL> data = reform(data, 256, 256)
```


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