Subject: Re: read 12 bit array
Posted by Wout De Nolf on Sat, 02 Apr 2011 18:55:40 GMT
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On Thu, 31 Mar 2011 08:00:38 -0700 (PDT), alx
<lecacheux.alain@wanadoo.fr> wrote:

> Read it as [3,N] byte array b, if the file contains an array of 2*N 12
> bits words.
> Then transform the result to an integer (16 bits) array by b = fix(b,
> 0, 3, N)
> Finally concatenate the first and last bytes of each triple with
> corresponding half parts of the middle byte, that is :
> [b[0,*] or (ishft(b[1,*] and '0F'x,8), ishft(b[2,*],4) or
> ishft((b[1,*] and 'F0'x), -4)]
> You should get your 12 bits array packed in a 16-bits array of same
> size.
> alx.

Thanks. I came up with something like this.

```
; 8bit array with "bigedian" endianness
arr=bindgen(48)
nbytes=n_elements(arr)
nadd=nbytes mod 6
if nadd ne 0 then arr=[arr,bytarr(nadd)]

; convert to 16bit array (endianness of machine)
arr=fix(arr,0,3,nbytes/6)
SWAP_ENDIAN_INPLACE, arr, SWAP_IF_BIG_ENDIAN=~bigendian,
SWAP_IF_LITTLE_ENDIAN=bigendian

; convert to 12bit array
; Each tripple of 16bit numbers: [4 4 4][4 \ 4 4][4 4 \ 4][4 4 4]
arr=[ishft(arr[0,*],-4),$
ishft(arr[0,*] and '000F'x,8) or ishft(arr[1,*] and fix('FF00'x),-8),$
ishft(arr[1,*] and '00FF'x,4) or ishft(arr[2,*] andfix('F000'x),-12),$
arr[2,*] and '0FFF'x]
arr=arr[0:n_elements(arr)-1-nadd*8/12]
```