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Subject: Writing a structure containing empty strings  
Posted by [news.verizon.net](https://news.verizon.net) on Mon, 07 Aug 2006 15:12:58 GMT  
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This message and the next one address long-standing problems I've had with IDL software to handle the FITS data format used in astronomy.

When writing an IDL structure, str, to FITS format, the following simple code *\*almost\** works.

```
openw,lun, 'output.dat',/get_lun
writeu,lun, str
free_lun, lun
```

The only problem occurs if one of the structure tags contains an empty string. What I want is for IDL to write a zeroed byte (0b), but IDL simply ignores the tag and doesn't write anything. Note that IDL does understand 0b as the byte representation of an empty string:

```
IDL> print,strlen(string(0b))
      0
IDL> print,byte("")
      0
```

but it simply skip over an empty string when performing I/O. So my first thought is to convert the string tags to bytes, but this has two problems: (1) one can't directly change the data type of a structure tag and (2) converting a string array to byte forces everything to a fixed length. So right now, I loop over every element and every tag of the structure and write it to disk:, if it is a string tag I test for the presence of an empty string, and then further loop over the string array to convert every element to a byte array before writing to disk. So simple code that *\*almost\** works, requires a major revision to completely work. Or am I missing a simpler solution?

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