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Subject: Create a structure in IDL

Posted by [francisco.pozon](#) on Mon, 06 Mar 2017 19:53:52 GMT

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Hello everyone:

I would like to create a structure in IDL and put the information from my ASCII file. The problem is that I have several ASCII files and always the number of columns and rows are different. For example, I have the ASCII file "data.dat" and has 50 lines and 2040 columns. I know that we can define the data structure (if we assume I have only 5 columns):

```
datastruct = { col1:0L, col2:0.0, col3:0.0, col4:0.0, col5:0.0}
```

I can read my file and then replicate the structure:

```
file = 'data.dat'
nrows = file_line(file) ; to estimate the number of rows
data = replicate(datastruct, nrows)
openr, lun, file, /GET_LUN
readF, lun, data
free_lun, lun
```

I can do: print, data.col1 or print, data.col2 and so on... but this will give me only the first 5 columns. How I can do the same but for 2040 columns and also when we don't know in advance the number of columns in the file. Thanks for your help!

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Subject: Re: Create a structure in IDL

Posted by [wlandsman](#) on Tue, 07 Mar 2017 00:00:51 GMT

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You can make repeated calls to the intrinsic CREATE\_STRUCT() function to build up your structure. For example, to make a structure with 10 tags of scalar floats

```
IDL> name = 'col' + strtrim(indgen(10),2)
IDL> struct = create_struct(name[0],0.)
IDL> for i=1,9 do struct= create_struct(temporary(struct),name[i],0.0)
IDL> help,/str,struct
```

```
** Structure <23013f8>, 10 tags, length=40, data length=40, refs=1:
```

|      |       |         |
|------|-------|---------|
| COL0 | FLOAT | 0.00000 |
| COL1 | FLOAT | 0.00000 |
| COL2 | FLOAT | 0.00000 |
| COL3 | FLOAT | 0.00000 |
| COL4 | FLOAT | 0.00000 |
| COL5 | FLOAT | 0.00000 |
| COL6 | FLOAT | 0.00000 |
| COL7 | FLOAT | 0.00000 |
| COL8 | FLOAT | 0.00000 |

```
COL9      FLOAT      0.00000
```

You can also use [https://idlastro.gsfc.nasa.gov/ftp/pro/structure/mrd\\_struct.pro](https://idlastro.gsfc.nasa.gov/ftp/pro/structure/mrd_struct.pro) which is a wrapper for building a structure this way, e.g.

```
IDL> str = mrd_struct(name,replicate('0.',10),1)
IDL> help,/str,str
** Structure <2216d78>, 10 tags, length=40, data length=40, refs=1:
COL0      FLOAT      0.00000
COL1      FLOAT      0.00000
COL2      FLOAT      0.00000
COL3      FLOAT      0.00000
COL4      FLOAT      0.00000
COL5      FLOAT      0.00000
COL6      FLOAT      0.00000
COL7      FLOAT      0.00000
COL8      FLOAT      0.00000
COL9      FLOAT      0.00000
```

--Wayne

On Monday, March 6, 2017 at 2:53:55 PM UTC-5, Francisco wrote:

```
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```

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Subject: Re: Create a structure in IDL

Posted by [francisco.pozon](#) on Tue, 07 Mar 2017 20:23:55 GMT

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Thank you very much! This helps a lot to understand the use of structures!

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