
Subject: Re: Change structure tags from float to double
Posted by [David Fanning](#) on Wed, 08 Jul 2009 12:44:04 GMT
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Anthony writes:

> I have an array of structures, with many tags, including "table.ra"
> and "table.dec", which are floats
>
> I want to change "table.ra" and "table.dec" to double precision.
>
> Is there an easy way of doing this? (Optimistic question, I know...)

You mean NOW!? No, it's **way** too late for that.
You should have thought of that when you were defining
the structure. :-)

Cheers,

David

--

David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: <http://www.dfanning.com/>
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: Change structure tags from float to double
Posted by [R.Bauer](#) on Wed, 08 Jul 2009 13:40:43 GMT
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David Fanning schrieb:

> Anthony writes:
>
>> I have an array of structures, with many tags, including "table.ra"
>> and "table.dec", which are floats
>>
>> I want to change "table.ra" and "table.dec" to double precision.
>>
>> Is there an easy way of doing this? (Optimistic question, I know...)

it is

>
> You mean NOW!? No, it's **way** too late for that.

> You should have thought of that when you were defining
> the structure. :-)
>
> Cheers,
>
> David
>
>
>

it isn't you just need a program for that as usual.

http://www.fz-juelich.de/icg/icg-1/idl_icglib/idl_source/idl_html/dbase/replace_tagvalue_dbase.pro.html

e.g. wget

http://www.fz-juelich.de/icg/icg-1/idl_icglib/idl_source/idl_html/dbase/download/replace_tagvalue.sav

e.g.

d = {A: 1, B: {B1: 0, B2: 1}, C: {B1: 0, B2: 1}}

```
help, replace_tagvalue(d, 'A', 2, NEW_TAGNAME = 'CC'),/str
** Structure <1056ea8>, 3 tags, length=10, refs=1:
CC INT 2
B STRUCT -> Array[1]
C STRUCT -> Array[1]
result = replace_tagvalue(d, 'A', {A:2})
HELP, result.a, /STR
** Structure <133aa58>, 1 tags, length=2, refs=2:
A INT 2
result = replace_tagvalue(d, 'B1', {A:2}, NEW_TAGNAME = 'I', /ALL)
HELP,result.b,/str
** Structure <1055248>, 2 tags, length=4, refs=2:
I STRUCT -> Array[1]
B2 INT 1
result = replace_tagvalue(d, 'B1', {A:2}, sub='B')
HELP, result.b, /STR
** Structure <13243f8>, 2 tags, length=4, refs=2:
B1 STRUCT -> Array[1]
B2 INT 1
HELP, result.b.b1, /STR
** Structure <1369998>, 1 tags, length=2, refs=2:
A INT 2
```

further tools could be found at

http://www.fz-juelich.de/icg/icg-1/idl_icglib/idl_lib_intro.html

cheers
Reimar

Subject: Re: Change structure tags from float to double
Posted by [Anthony\[1\]](#) on Wed, 08 Jul 2009 14:23:13 GMT
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Hi again,

David - I'm reading data using MRDFITS - not sure I can convert the data when reading it in??

Reimar - does it work on arrays of structures? I tried this:

```
IDL> x = replicate({a:0., b:0}, 5)
IDL> help, x
X          STRUCT    = -> <Anonymous> Array[5]
IDL> help, x, /struct
** Structure <15ee908>, 2 tags, length=8, data length=8, refs=1:
  A          FLOAT      0.00000
  B          LONG       0
IDL> y = replace_tagvalue(x, 'A', double(x.a))
IDL> help, y
Y          STRUCT    = -> <Anonymous> Array[1]
IDL> help, y, /struct
** Structure <15f5518>, 2 tags, length=64, data length=60, refs=1:
  A          DOUBLE   Array[5]
  B          LONG     Array[5]
```

... but it completely changed the structure.

Maybe I'll just edit the FITS file manually...

Anthony

Subject: Re: Change structure tags from float to double
Posted by [Anthony\[1\]](#) on Wed, 08 Jul 2009 14:38:02 GMT
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> Maybe I'll just edit the FITS file manually...

Not to worry - I've found a one-line solution using STILTS:

stilts tpipe cmd='replacecol ra toDouble(ra)' cmd='replacecol dec

toDouble(dec)' in=catalogue.fits out=catalogue.fits

Subject: Re: Change structure tags from float to double
Posted by [David Fanning](#) on Wed, 08 Jul 2009 14:43:40 GMT
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Anthony writes:

> David - I'm reading data using MRDFITS - not sure I can convert the
> data when reading it in??

I guess I don't understand. If you read it from a file,
and the data comes back as floats, what do you gain
by changing the structure field to doubles?

Cheers,

David

--

David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: <http://www.dfanning.com/>
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: Change structure tags from float to double
Posted by [Anthony\[1\]](#) on Wed, 08 Jul 2009 15:04:05 GMT
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> I guess I don't understand. If you read it from a file,
> and the data comes back as floats, what do you gain
> by changing the structure field to doubles?

Later on I want to change the values in those fields, using double
precision, then write the modified data to a new file.

Cheers,

Anthony

Subject: Re: Change structure tags from float to double

Anthony schrieb:

```
> Hi again,  
>  
> David - I'm reading data using MRDFITS - not sure I can convert the  
> data when reading it in??  
>  
> Reimar - does it work on arrays of structures? I tried this:
```

not directly but you can call `reform_struct` beforehand
http://www.fz-juelich.de/icg/icg-1/idl_icglib/idl_source/idl_html/dbase/reform_struct_dbase.pro.html
and afterwards

```
wget  
http://www.fz-juelich.de/icg/icg-1/idl\_icglib/idl\_source/idl\_html/dbase/download/reform\_struct.sav
```

```
IDL> x2 = reform_struct(x,5,/tag)  
IDL> help,x2  
X2          STRUCT  = -> <Anonymous> Array[1]
```

```
y = replace_tagvalue(x2, 'A', double(x.a))
```

```
x = reform_struct(y,5,/str)  
IDL> help ,x  
X          STRUCT  = -> <Anonymous> Array[5]  
IDL> help ,x,/str  
** Structure <1dc3b78>, 2 tags, length=16, data length=10, refs=1:  
  A          DOUBLE      0.0000000  
  B          INT         0
```

cheers
Reimar

```
>  
> IDL> x = replicate({a:0., b:0}, 5)  
> IDL> help, x  
> X          STRUCT  = -> <Anonymous> Array[5]  
> IDL> help, x, /struct  
> ** Structure <15ee908>, 2 tags, length=8, data length=8, refs=1:  
>  A          FLOAT      0.00000  
>  B          LONG       0  
> IDL> y = replace_tagvalue(x, 'A', double(x.a))  
> IDL> help, y  
> Y          STRUCT  = -> <Anonymous> Array[1]  
> IDL> help, y, /struct
```

```
> ** Structure <15f5518>, 2 tags, length=64, data length=60, refs=1:  
>   A      DOUBLE  Array[5]  
>   B      LONG    Array[5]  
>  
> ... but it completely changed the structure.  
>  
> Maybe I'll just edit the FITS file manually...  
>  
> Anthony
```
