Subject: Re: Maddening structures
Posted by Maarten[1] on Mon, 18 Sep 2006 12:13:17 GMT
View Forum Message <> Reply to Message

Edd wrote:
> OK, I've got some data read in so that I have a structure that looks
> like
>
> data.foo[600]
> .bar[600]
> .baz[600]
>
> and I want
> data[600].foo
> .bar
> .baz
>
> In other words I want an array of structures rather than a structure
> of arrays.
>
> Does anyone have any magic that works for the case when foo, bar and
> baz are not previously known?

Perhaps my reading comprehension isn't quite awake yet, but:

1) do you mean the names themselves, or the number of fields (there may also be a fuu around, in addition to the foo, bar and baz)?

Get the names with tag_names(data), obtain the length with size(data.(0), /dim), create a base struct with base = CREATE_STRUCT(...) and replicate() the base to the right size. At least that is where I would look. Copying is another matter, perhaps others can comment on how to do this efficiently. At least you have the right structure to store the stuff.

Maarten

Subject: Re: Maddening structures
Posted by Edd Edmondson on Mon, 18 Sep 2006 12:23:19 GMT
View Forum Message <> Reply to Message

Maarten <maarten.sneep@knmi.nl> wrote:

> Edd wrote:
>> OK, I've got some data read in so that I have a structure that looks
>> like
>>

>> data.foo[600]
>> .bar[600]
>> .baz[600]
>>
>> and I want
>> data[600].foo
>> .bar
>> .baz
>>
>> In other words I want an array of structures rather than a structure
>> of arrays.
>>
>> Does anyone have any magic that works for the case when foo, bar and
>> baz are not previously known?

> Perhaps my reading comprehension isn't quite awake yet, but:

> 1) do you mean the names themselves, or the number of fields (there may
> also be a fuu around, in addition to the foo, bar and baz)?

I'd basically like the most general method I can find (so I don't have
to go recoding stuff when another field gets added a week or two down
the line). So number and naming of fields should be considered flexible.

> Get the names with tag_names(data), obtain the length with
> size(data.(0), /dim), create a base struct with base =
> CREATE_STRUCT(...) and replicate() the base to the right size. At least
> that is where I would look. Copying is another matter, perhaps others
> can comment on how to do this efficiently. At least you have the right
> structure to store the stuff.

That's where I was looking too. I wasn't sure how to handle the
structure creation nearly though. Once you have the tag names you can
loop over them in a for loop (there won't be that many tags anyway) so
it's not too bad. Just a bit hairy. It'd be nice if there was a
reform-alike. :-)

I may try for an alternative workaround, as rejigging the other bits
probably involves less recoding than doing the jigging with this.

--
Edd

Subject: Re: Maddening structures
Posted by Edd Edmondson on Mon, 18 Sep 2006 12:24:20 GMT
View Forum Message <> Reply to Message

Maarten <maarten.sneep@knmi.nl> wrote:

> Edd wrote:
>> OK, I've got some data read in so that I have a structure that looks
>> like
>>
>> data.foo[600]
>> .bar[600]
>> .baz[600]
>>
>> and I want
>> data[600].foo
>> .bar
>> .baz
>>
>> In other words I want an array of structures rather than a structure
>> of arrays.
>>
>> Does anyone have any magic that works for the case when foo, bar and
>> baz are not previously known?

> Perhaps my reading comprehension isn't quite awake yet, but:

> 1) do you mean the names themselves, or the number of fields (there may
> also be a fuu around, in addition to the foo, bar and baz)?

I'd basically like the most general method I can find (so I don't have
to go recoding stuff when another field gets added a week or two down
the line). So number and naming of fields should be considered flexible.

> Get the names with tag_names(data), obtain the length with
> size(data.(0), /dim), create a base struct with base =
> CREATE_STRUCT(...) and replicate() the base to the right size. At least
> that is where I would look. Copying is another matter, perhaps others
> can comment on how to do this efficiently. At least you have the right
> structure to store the stuff.

That's where I was looking too. I wasn't sure how to handle the
structure creation neatly though. Once you have the tag names you can
loop over them in a for loop (there won't be that many tags anyway) so
it's not too bad. Just a bit hairy. It'd be nice if there was a
reform-alike. :-)

I may try for an alternative workaround, as rejigging the other bits
probably involves less recoding than doing the jigging with this.

--
Edd

Subject: Re: Maddening structures
Posted by David Fanning on Mon, 18 Sep 2006 13:52:13 GMT
View Forum Message <> Reply to Message

Edd writes:

> OK, I've got some data read in so that I have a structure that looks
> like
>
> data.foo[600]
> .bar[600]
> .baz[600]
>
> and I want
> data[600].foo
> .bar
> .baz
>
> In other words I want an array of structures rather than a structure
> of arrays.
>
> Does anyone have any magic that works for the case when foo, bar and
> baz are not previously known?

```
names = ['foo','bar', 'baz']
struct = Create_Struct(names[0], 0.0, names[1], 0.0, names[2], 0.0)
data = Replicate(struct, 600)
```

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: Maddening structures
Posted by Edd Edmondson on Mon, 18 Sep 2006 13:54:11 GMT
View Forum Message <> Reply to Message

Edd <eddedmondson@hotmail.com> wrote:

> That's where I was looking too. I wasn't sure how to handle the
> structure creation neatly though. Once you have the tag names you can
> loop over them in a for loop (there won't be that many tags anyway) so
> it's not too bad. Just a bit hairy. It'd be nice if there was a

> reform-alike. :-)

Saying it's not too bad is an exaggeration. All this is happening inside an execute(), so I'm entering it in one set of ''s. I need to put it all in another execute() inside that to make it on-the-fly-enough, which uses up a "" inside the '', leaving me using STRING(39B) to get a third tier. I've managed to build up a string that looks like

'mystructure=create_struct('foo',0.1,'bar',1242999,'baz',som estring)'

which means I get my float in foo, my long in bar, but baz complains because the string is coming out without the ''s it needs, only I can't put those ''s in in general or the floats and longs turn into strings too, breaking other stuff.

It's the ugliest code I've written (well, since that bit of Perl I did last week) and I'm about to throw a brick at the screen. All this just to rejig a structure a bit. Surely this can be done with histogram() or something ;-)

--
Edd

Subject: Re: Maddening structures
Posted by Edd Edmondson on Mon, 18 Sep 2006 13:55:51 GMT
View Forum Message <> Reply to Message

David Fanning <davidf@dfanning.com> wrote:
> Edd writes:

>> OK, I've got some data read in so that I have a structure that looks
>> like
>>
>> data.foo[600]
>> .bar[600]
>> .baz[600]
>>
>> and I want
>> data[600].foo
>> .bar
>> .baz
>>
>> In other words I want an array of structures rather than a structure
>> of arrays.
>>
>> Does anyone have any magic that works for the case when foo, bar and
>> baz are not previously known?

> names = ['foo','bar', 'baz']
> struct = Create_Struct(names[0], 0.0, names[1], 0.0, names[2], 0.0)
> data = Replicate(struct, 600)

Fine, unless there might be further tags (which you can then solve
with a bit of looping and executing), and complicated when they aren't
all floats but a mix of floats, ints, longs and strings. See my other
post...

Think I'm getting there though. Whether anyone will be able to manage
this code later is another question.

--
Edd

Subject: Re: Maddening structures
Posted by David Fanning on Mon, 18 Sep 2006 14:16:53 GMT
View Forum Message <> Reply to Message

Edd writes:

> Think I'm getting there though. Whether anyone will be able to manage
> this code later is another question.

Just leave all the comments out. Then, whoever has to
deal with it later will have to rewrite it the way
it SHOULD have been written in the first place. :-)

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: Maddening structures
Posted by Jean H. on Mon, 18 Sep 2006 16:40:14 GMT
View Forum Message <> Reply to Message

> Fine, unless there might be further tags (which you can then solve
> with a bit of looping and executing), and complicated when they aren't

> all floats but a mix of floats, ints, longs and strings. See my other
> post...

What about using an array of pointers? drop the structure and work on the array! ... it could be of any size!

Jean
