Subject: Re: Retrieving variables from a subroutine
Posted by Kenneth P. Bowman on Mon, 19 Feb 2007 15:22:11 GMT
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In article <ercbpk$res$1@south.jnrs.ja.net>,
 Andy Heaps <a.j.heaps@reading.ac.uk> wrote:

> Does anyone know of any IDL magic that could be used to have a single
> procedural (or other) call, and then somehow end up with the NetCDF
> variables extracted back in the the calling procedure?

I think structures really are the best way to do this. I generally
use a function rather than a procedure, so it is called like this

```
   data = READ_SAT_DAT(input)
```

where input is a file name or date, depending on the application.

READ_SAT_DATA packages all of the info from the file into an
anonymous structure.

It is not too difficult to get undergrads to understand, for example,
that

```
   data.longitude
```

contains the longitudes of the satellite fields of view,

```
   data.values
```

contains the radiances or retrieved quantities, etc.

The structure makes it easy to include the data and all of the
ancillary information (units, long names, etc.) in a single package.

Ken Bowman

Subject: Re: Retrieving variables from a subroutine
Posted by David Fanning on Mon, 19 Feb 2007 15:23:50 GMT
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Andy Heaps writes:

> Does anyone know of any IDL magic that could be used to have a single
> procedural (or other) call, and then somehow end up with the NetCDF
> variables extracted back in the the calling procedure?

Well, SCOPE_VARFETCH is always magic if you can figure
out the crappy documentation. :-)

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: Retrieving variables from a subroutine
Posted by Paul Van Delst[1] on Tue, 20 Feb 2007 16:51:18 GMT
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Andy Heaps wrote:
>
> I've written some IDL code to retrieve all the variables from a NetCDF
> file. This takes the form of:
> ncopen, 'file.nc'
> @ncread
>
> where the ncopen routine opens up the NetCDF file and writes all the
> variable information into a set of system strings in a !variable. The
> batch file statement @ncread then accesses these strings to read the
> data so all the variables are available from within the calling routine.
>
> This process is the only way I could think of to get the variables to
> appear in the calling procedure without having the NetCDF code directly
> in the user's program. Although this works, I cannot help thinking this
> is not the most elegant way of doing the job. I'd certainly like to
> just have one command to do the job, rather than two, if at all possible.
>
> As this program is for the use of undergrad students I don't want to use
> structures as they'll think IDL is very complicated and we all know that
> that isn't the case ;-) One of the ideas I had was to somehow get the
> returning ncopen procedure to call @ncread but I cannot think of a way
> to do that.
>
> Does anyone know of any IDL magic that could be used to have a single
> procedural (or other) call, and then somehow end up with the NetCDF
> variables extracted back in the the calling procedure?

I have a function to read netcdf files. See:

http://tinyurl.com/3apa9f

cheers,

paulv

--
Paul van Delst Ride lots.
CIMSS @ NOAA/NCEP/EMC Eddy Merckx

Subject: Re: Retrieving variables from a subroutine
Posted by Andy Heaps on Wed, 21 Feb 2007 13:48:30 GMT
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Two votes for using structures wins the day. I'm sure the students
will be able to cope!

Cheers
Andy
