
Subject: General purpose structure editor?
Posted by [Dyer Lytle](#) on Wed, 24 Feb 1999 08:00:00 GMT
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Hi,

Does anyone know if there exists IDL code anywhere for a general purpose, widget-based, IDL structure editor that will display the tags and values in a text field and allow the user to edit them and save back to the structure? It should also descend into arrays and pointers to substructures, etc.

(I am trying to avoid writing this myself although it will be an interesting project.)

Thanks,

-Dyer

--

-Dyer Lytle in Tucson
Cassini ISS Software Engineer
dyer@lpl.arizona.edu

Subject: Re: General purpose structure editor?
Posted by [davidf](#) on Thu, 25 Feb 1999 08:00:00 GMT
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Christopher C. Lamb (cclamb@sandia.gov) writes:

>> Does anyone know if there exists IDL code anywhere
>> for a general purpose, widget-based, IDL structure
>> editor.
>
> Don't know of one, but I think it wouldn't be
> too hard to throw one together using the
> Execute function.

Yeah, someone could probably knock it out in a half hour. ;-)

Cheers,

David

P.S. Nothing like a little programming challenge to get

those competitive juices flowing....

--

David Fanning, Ph.D.

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Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: General purpose structure editor?

Posted by [davidf](#) on Tue, 02 Mar 1999 08:00:00 GMT

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J.D. Smith (jdsmith@astrosun.tn.cornell.edu) writes:

> Gee David, I remember when you used to offer rewards
> for challenges such as this.

These days Dick and I are so busy (working on a book, hooray!)
that the only reward we can offer someone who comes up with
a really good program is a job. :-)

I haven't seem too much code yet. Maybe this project is
harder than we thought...

Cheers,

David

P.S. If you **are** a great IDL programmer and you like to live
life on the edge, crave artistic freedom, like to work in
your pajamas, want an uncertain (but potentially large)
income, etc., then give me a call. We are looking for the
right person. :-)

--

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Subject: Re: General purpose structure editor?

Posted by [J.D. Smith](#) on Tue, 02 Mar 1999 08:00:00 GMT

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David Fanning wrote:

>
> Christopher C. Lamb (cclamb@sandia.gov) writes:
>
>>> Does anyone know if there exists IDL code anywhere
>>> for a general purpose, widget-based, IDL structure
>>> editor.
>>
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> David
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> P.S. Nothing like a little programming challenge to get
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> David Fanning, Ph.D.
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Gee David, I remember when you used to offer rewards for challenges such as this.

--

J.D. Smith |*| WORK: (607) 255-5842
Cornell University Dept. of Astronomy |*| (607) 255-6263
304 Space Sciences Bldg. |*| FAX: (607) 255-5875
Ithaca, NY 14853 |*|

Subject: Re: General purpose structure editor?
Posted by [davidf](#) on Fri, 05 Mar 1999 08:00:00 GMT
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Michael Asten (masten@mail.eearth.monash.edu.au) writes:

> Well well.
>
> Seems its been done. The idl routine XVAREDIT is one of rsi's best
> kept secrets.

I'm sorry. I don't wish to offend anyone here, least of all RSI. But every program I have ever seen that uses the table widget (and this includes XVAREDIT) is an abomination.

I just tried it again to be certain that it is not old prejudices getting in the way of progress. When I run your example program, for example, all the columns titles are stacked up on top of one another because the columns don't size themselves to fit their titles, they size themselves to fit their contents. Which pretty much means you can't read the column headers at all.

Ok, I can reach up there with my mouse and interactively resize the column header so I can read it. But I have to do this for EVERY friggin column! Now I can read my columns, so I at least know what I am editing. (Never mind now that I can't resize the widget, so that the space I have to work with at this point is about as wide as a single column. I'll use the helpfully provided slider bar to quickly locate which of the--what--20 columns I want to edit.)

So now I select the cell I want to edit. It gets highlighted. I hit a key to edit it. Nothing.

Must have done something wrong. Read the newsgroup article again. Humm. "Double click" to edit. Try that. Ok, double clicking selects the *number* in the cell instead of the cell. I see. Try to edit that. Still nothing. Humm. This doesn't work like any cell editor I've ever used. Still, must be a way or they wouldn't put the damn thing out there.

Etc., etc., etc. And so it goes.

I eventually get a damn number to change, but I have no idea WHY!

And I'm asking myself, "If I were a person writing a program for someone who was going to pay me for the program, would I ever, EVER put something like this in it?" And I've got to tell you, that if anyone ever wrote a program like this for me and wanted me to pay for it...well, it would be the last program they ever wrote for me.

I don't know why I'm so crotchety this morning. Posting this article can't do anything but get me in trouble. But someone has got to hear the truth about this table widget.

Cheers,

David

--

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Subject: Re: General purpose structure editor?

Posted by [Michael Asten](#) on Fri, 05 Mar 1999 08:00:00 GMT

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David Fanning wrote:

> Dyer Lytle (dyer@lpl.arizona.edu) writes:
>
>> Does anyone know if there exists IDL code anywhere
>> for a general purpose, widget-based, IDL structure
>> editor that will display the tags and values in
>> a text field and allow the user to edit them and
>> save back to the structure? It should also descend
>> into arrays and pointers to substructures, etc.
>>
>> (I am trying to avoid writing this myself although
>> it will be an interesting project.)
>
> Here's a piece of advice, Dyer. Do this on your
> own time with the PC at home and don't touch the
> University's computers. Then, when you have it done,
> call me first before you show it to anyone else.
> I've got a feeling you are not the only one who
> wants one of these. :-)
>
> Cheers,
>
> David
> --
> David Fanning, Ph.D.

=====

Well well.

Seems its been done. The idl routine XVAREEDIT is one of rsi's best kept secrets.

(See my comments of Jan 15th on why rsi needs to make a greater effort on developing library widgets for its users, and make a greater effort to provide documentation guidance and examples of their use).

I prefer XVAREDIT from idl 4.0, but be warned, rsi techs say it has a reported bug (altho I havnt found it).

XVARDEDIT from idl5.x is a totally rewritten routine, which to me gives a widget which is less pleasing to the eye, and clunky to use (needs press Enter to make an editable field active, and press Enter to confirm the edited field, wheras the old version is just like a wordprocessor to use when editting fields.

Both routines work on structures, including structures containing arrays. Pointers - I dont think so but check the doc.

The following code illustrates useage.

```
;
; program to demonstrate use of XVAREDIT for editting mixed string and
;      real numbers, in a widget
; this works in idl 5.x, but note the edit process on each cell of the
; widget
;      requires a double click to "activate" the cell, and a Press Enter

;      to confirm changes to the cell.
; This program works more cleanly and more intuitively with the
different
;      procedure (of the same name) XVAREDIT in IDL 4.x
;      (in directory \rsi\idl40\lib).
;
; demo by Michael Asten, Monash University, Melbourne. 9 Jan 99.
;
x=10.*indgen(5*36)
y=sin(x!*pi/180)
plot,x,y
xmin=0 & xmax=(5*360) & ymin=-1. & ymax=1.
title='XVAR TEST'
print,title,xmin,xmax,ymin,ymax
; now set up a structure to pass plot parameters to an edit widget
plot_par={plot_title:title,Xaxis_left_limit:xmin,Xaxis_right_limit:xmax,
$,
          Yaxis_lower_limit:ymin,Yaxis_top_limit:ymax}
xvaredit,plot_par      ; edit the parameters in a widget
title=plot_par.plot_title      ; now extract the edited parameters
from the structure
xmin=plot_par.Xaxis_left_limit
xmax=plot_par.Xaxis_right_limit
```

```
ymin=plot_par.Yaxis_lower_limit  
ymax=plot_par.Yaxis_top_limit
```

```
print,title,xmin,xmax,ymin,ymax ; print the new values  
plot,x,y,title=title,xrange=[xmin,xmax],yrange=[ymin,ymax] ; draw the  
new plot  
end
```

=====

Subject: Re: General purpose structure editor?
Posted by [mallors](#) on Sat, 06 Mar 1999 08:00:00 GMT
[View Forum Message](#) <> [Reply to Message](#)

In article <36DF84A4.1F6575D7@mail.earth.monash.edu.au>,
Michael Asten <masten@mail.earth.monash.edu.au> writes:

> Well well.
>
> Seems its been done. The idl routine XVAREDIT is one of rsi's best
> kept secrets.
> (See my comments of Jan 15th on why rsi needs to make a greater effort
> on developing library widgets for its users, and make a greater effort
> to provide documentation guidance and examples of their use).
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> I prefer XVAREDIT from idl 4.0, but be warned, rsi techs say it has a
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> XVARDEDIT from idl5.x is a totally rewritten routine, which to me gives
> a widget which is less pleasing to the eye, and clunky to use (needs
> press Enter to make an editable field active, and press Enter to
> confirm the edited field, wheras the old version is just like a
> wordprocessor to use when editing fields.
>
> Both routines work on structures, including structures containing
> arrays. Pointers - I dont think so but check the doc.

I wrote a companion routine called XVarExport which will
(well, should :-) allow you to interactively select and export
any variables to an IDL save file. It could be a little memory
intensive for large datasets, since it must copy your data
to local variables prior to the SAVE, but I couldn't see any
other way to do it.

For more info, see

<http://cspar.uah.edu/~mallozzir/software/idl/idl.html>

-bob mallozzi

--

~~~~~  
Robert S. Mallozzi

256-544-0887

Mail Code ES 84

Work: <http://www.batse.msfc.nasa.gov/> Marshall Space Flight Center

Play: <http://cspar.uah.edu/~mallozzir/> Huntsville, AL 35812  
~~~~~

Subject: Re: General purpose structure editor?

Posted by [davidf](#) on Sat, 06 Mar 1999 08:00:00 GMT

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Michael Asten (MichaelAsten@Flagstaff-GeoConsultants.com.au) writes:

> I agree with your grumps re idl 5.x XVAREdit as being non-intuitive. I
> actually logged a bug report with RSI when I first tried it, and found it
> "didn't work"; silly me I didn't think of double clicking etc etc.

You are not alone. RSI themselves couldn't figure it out when they wrote the ASCII_TEMPLATE program. There they added a text widget that you type into, and *that* edits the table widget. Easier to edit the table widget in this roundabout, non-intuitive way than to memorize the particular magical incantations normally required, I guess.

But--in any case--I'm sure I've mentioned that I LOVE IDL at least a couple of times in the past week. And I do. I'm just not overly fond of the table widget. :-)

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting

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Subject: Re: General purpose structure editor?

Posted by [Martin Schultz](#) on Mon, 08 Mar 1999 08:00:00 GMT

[View Forum Message](#) <> [Reply to Message](#)

David Fanning wrote:

>

> Michael Asten (MichaelAsten@Flagstaff-GeoConsultants.com.au) writes:

>

>> I agree with your grumps re idl 5.x XVAREDIT as being non-intuitive. I

>> actually logged a bug report with rsi when I first tried it, and found it

>> " didn't work"; silly me I didn't think of double clicking etc etc.

> [...]

There seems to be another bug in XVAREDIT (at least for IDL 5.1): I have a structure

IDL> help,minfo,/stru

** Structure CTMMT, 11 tags, length=48:

NAME	STRING	'GEOS1'
FAMILY	STRING	'GEOS'
ONLINE	INT	0
NLAYERS	INT	20
NTROP	INT	14
PTOP	FLOAT	10.0000
PSURF	FLOAT	986.000
RESOLUTION	FLOAT	Array[2]
HALFPOLAR	INT	1
CENTER180	INT	1
FULLCHEM	INT	1

and if I call XVAREDIT,minfo I get all the fields in the structure, but at the end a thousand (well, almost;-) repetitions of the var.FAMILY entry. And, David, you are absolutely right about your opinion on the table widget - except that I do find it useful for simple display purposes when you don't want anyone to mess around with the data you are showing.

Martin.

> You are not alone. RSI themselves couldn't figure it out

> when they wrote the ASCII_TEMPLATE program.

This sounds almost like some other company in Wash.?

> I'm sure I've mentioned that I LOVE

> IDL at least a couple of times in the past week.

Just this past week, I had to admit to a colleague several times that IDL does have some limitations and some strange behaviour. Of course, for David it is nice that people have to know about IDL's idiosyncrazies but for many others it often means unnecessary frustration. Below three of the major complaints that I heard last week:

* logarithmic plots: why isn't there an easier way to plot "sensible" labels except using xyouts? Since the [XYZ]TICKS keyword doesn't make too much sense in a log plot anyway, one possibility could be to redefine it as follows:

ticks = 0 : default, labeling only at decades

1 : labels at 1, 2, 5, 10, 20, 50, 100, ...

2 : labels at 1, 2, 3, 4, 5, 6, 7, 8, 9, 10,...

and even(?) 3 : labels at 1, 1.2, 1.5, 2., 2.2, 2.5, 3, ...

I bet there are thousands of IDL users who have been frustrated about this missing feature at least once!

* map_set etc.: for the default projection, if you use limits=[..] you need to make sure that your lon0 parameter lies within your range. But don't touch lat0 ! This is one of those unexpected side effects that may take a while to figure out for not so experienced users.

* colors: for users who want to use IDL simply to do their data analysis and who produce mostly line plots, it would certainly be helpful to have predefined drawing colors as default (instead of or in addition to) the grey scale color table which first has to be overwritten (and this seems to be a running theme on this newsgroup too). Best would be to have a standard set of named colors so that you could write plot,color=black and it would work no matter whether you have < 256 colors or 16M. This shouldn't be hard to implement for true color systems, and for color table users, one could perhaps reserve a few entries for these drawing colors as default and leave them intact if someone issues a loadct, except if he/she explicitly sets bottom to zero.

Also, plot, color=red should as default plot only the data in red but use a "systemwide" default color for the axis. Don't ask how many times I wrote

plot,dummy,/nodata,...

oplot,data,color=red,...

But, yes, even I love IDL - otherwise I wouldn't spend so much time trying to solve my colleagues' problems and reading and writing on this newsgroup.

Martin.

Dr. Martin Schultz
Department for Engineering&Applied Sciences, Harvard University
109 Pierce Hall, 29 Oxford St., Cambridge, MA-02138, USA

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e-mail: mgs@io.harvard.edu
Internet-homepage: <http://www-as.harvard.edu/people/staff/mgs/>

Subject: Re: General purpose structure editor?
Posted by [David Foster](#) on Tue, 09 Mar 1999 08:00:00 GMT
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David Fanning wrote:

>
> Michael Asten (masten@mail.eearth.monash.edu.au) writes:
>
>> Well well.
>>
>> Seems its been done. The idl routine XVAREDIT is one of rsi's best
>> kept secrets.
>
> I'm sorry. I don't wish to offend anyone here, least of all
> RSI. But every program I have ever seen that uses the table
> widget (and this includes XVAREDIT) is an abomination.
>
<big-time snip of David being cranky>
>
> I don't know why I'm so crotchety this morning. Posting this
> article can't do anything but get me in trouble. But someone
> has got to hear the truth about this table widget.
>
> Cheers,
>
> David

David -

I'm glad someone finally said it! I used WIDGET_TABLE() once,
hated it, and swore never to use it again. Our users use
Excel, and expect to find similar behavior in a cell editor.
I would be too embarrassed to put that thing in ANY of my programs!

Dave

--

~~~~~  
David S. Foster      Univ. of California, San Diego  
Programmer/Analyst   Brain Image Analysis Laboratory  
foster@bial1.ucsd.edu   Department of Psychiatry  
(619) 622-5892      8950 Via La Jolla Drive, Suite 2240  
                         La Jolla, CA 92037  
~~~~~

