Subject: GDL 0.8.9 released
Posted by marc schellens[1] on Fri, 22 Apr 2005 10:45:25 GMT
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GDL - GNU Data Language, the free IDL clone

Now with z-buffer device, new subroutines, many improvements,
important bug fixes...

GDL now understands main programs and the .RUN command :-)

New routines (overall more than 250 subroutines implemented):

SPAWN, WAIT, FINITE, ROUTINE_INFO, TEMPORARY, DIST, TVSCL

For a sorted list of all implemented subroutines enter HELP,/LIB at
the command prompt.

FEATURES:

FULL syntax compatibility with IDL 6.0

ALL IDL language elements are supported, including:
    _EXRA, _REF_EXTRA and _STRICT_EXTRA keywords,
    Objects, Pointers, Structs,
    Common blocks, Assoc variables,
    Arrays, System variables,
    All operators, All data types...

Compiles on Linux and Mac OS X (10.2, 10.3, with g++ 3.3)
GDL is part of the Fink project (http://fink.sourceforge.net)

The file input output system is fully implemented
(Exception: For formatted I/O the C() sub-codes are not supported yet)

Most image file formats (jpeg, tiff, ...) are supported.

netCDF files are fully supported.
HDF file support.
Basic HDF5 file support.
READFITS and WRITEFITS from the IDL-Astrolib are working.

Graphical output is partially implemented. The PLOT, OPLOT, PLOTS,
XYOUTS, SURFACE and TV commands (along with WINDOW, WDELETE, SET_PLOT,
WSET, TVLCT) work (important keywords, some !P system variable tags and

multi-plots are supported) for X windows, z-buffer and postscript
output.

A GUI (widgets) is not implemeted yet.

HOMEPAGE:

http://gnudatalanguage.sourceforge.net

DOWNLOAD:

http://sourceforge.net/projects/gnudatalanguage/

Gaurav Khanna provides binaries for Mac OS X on his HPC page:
http://hpc.sourceforge.net

Check it out!

marc

Subject: GDL - a little uppdate...
Posted by Y.T. on Sat, 23 Apr 2005 01:55:01 GMT
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m_schellens@hotmail.com wrote:
> GDL - GNU Data Language, the free IDL clone
>
>
> Now with z-buffer device, new subroutines, many improvements,
> important bug fixes...
>
> GDL now understands main programs and the .RUN command :-)
>
[etc etc]

So I had a look at that, and I am a lot less impressed than I was when
I first heard that there is such a thing as a free IDL clone.

As far as I can figure out, GDL uses the 'readline' library to receive
input from the user, the 'gsl' library to perform the math and 'plplot'
to output the result -- in other words, it is really just a parser that
connects some other pieces.

Now by itself that isn't a problem, but I do have to wonder about the choice -- why gsl? why plplot?

Isn't gnuplot much, much, much more popular? I'm not aware of any current linux distro that doesn't have it -- while the latest plplot rpm for redhat that I can find is for 7.3, and there don't seem to be any newer .debs or slack-tgzs either.

And why gsl? That ain't exactly mainstream either (better than plplot, though).

The more I think about it, the more obvious it appears to me to write an IDL clone in python, which is popular and widespread, has it's own array-math routines (which compete with IDL's in speed and versatility) and through things like python/Tk or python/gtk even has a native link into the OSes windowing environment.

Maybe I'm naive about something here. Maybe I'm missing something.

But after three days of failed attempts to get GSL and plplot to compile properly ("[error 1]", why thank you for that valuable information) on two otherwise perfectly vanilla machines (one RH9 and one Slack10) I'm just a little puzzled and maybe just a tad frustrated.

Well, OK, maybe quite a bit frustrated. ;)

Why would someone make a current, live, under-development-right-now project dependent on things that haven't been included in a distro in three years? That require five year old software tools to be built?

Well, I haven't given up yet and I'm still trying -- but this obviously requires a pretty hefty pot of coffee before it'll run anywhere...

I'll let y'all know if/when I ever manage to get this working.

cordially

Y.T.

--
Remove YourClothes before you email me.

Subject: Re: GDL 0.8.9 released
Posted by wmconnolley on Sat, 23 Apr 2005 21:30:47 GMT
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m_schellens@hotmail.com <m_schellens@hotmail.com> wrote:
> Now with z-buffer device,

Thanks!

> new subroutines, many improvements,
> important bug fixes...

> GDL now understands main programs and the .RUN command :-)

Thanks again... I shall have a go.

-W.

--
William M Connolley | wmc@bas.ac.uk | http://www.antarctica.ac.uk/met/wmc/
Climate Modeller, British Antarctic Survey | Disclaimer: I speak for myself
I'm a .signature virus! copy me into your .signature file & help me spread!

Subject: Re: GDL - a little uppdate...
Posted by Brian Gough on Mon, 25 Apr 2005 15:05:37 GMT
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"Y.T." <ytyourclothes@p.zapto.org> writes:

> But after three days of failed attempts to get GSL and plplot to
> compile properly ("[error 1]", why thank you for that valuable
> information) on two otherwise perfectly vanilla machines (one RH9 and
> one Slack10) I'm just a little puzzled and maybe just a tad frustrated.

Please could you report any compilation problems to bug-gsl@gnu.org if
they are not covered in the README/INSTALL file. Thanks.

--
Brian Gough
(GSL Maintainer)

Subject: Re: GDL - a little uppdate...
Posted by George White on Tue, 26 Apr 2005 17:04:22 GMT
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On 22 Apr 2005, Y.T. wrote:

>
> m_schellens@hotmail.com wrote:
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>>
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> I first heard that there is such a thing as a free IDL clone.
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> input from the user, the 'gsl' library to perform the math and 'plplot'
> to output the result -- in other words, it is really just a parser that
> connects some other pieces.
>
> Now by itself that isn't a problem, but I do have to wonder about the
> choice -- why gsl? why plplot?

It is a problem if GDL can't readily substitute other libraries. Plotting is a tricky area, but certainly for the numerical codes there are often newer libraries that are significantly better for certain problems than the "state of the art" a few years ago..

IDL uses Numerical Recipes, which tends to err on the side of simplicity while GSL aims to stay closer to the "state of the art", but that doesn't say you won't run into limitations on a particular problem.

> Isn't gnuplot much, much, much more popular? I'm not aware of any
> current linux distro that doesn't have it -- while the latest plplot
> rpm for redhat that I can find is for 7.3, and there don't seem to be
> any newer .debs or slack-tgzs either.

Popularity is the last metric an IDL fan should be using -- if you want popular you'll have to stick with Excel. Gnuplot's underlying graphics model is very limited. It does have its own language, but that is wasted if you are writing your own interpreter. Based on my own experience, plplot would have been high on the list of candidates for a reliable plotting library with capabilities well matched to IDL's own plotting.

> And why gsl? That ain't exactly mainstream either (better than plplot,
> though).

>
> The more I think about it, the more obvious it appears to me to write
> an IDL clone in python, which is popular and widespread, has it's own
> array-math routines (which compete with IDL's in speed and versatility)
> and through things like python/Tk or python/gtk even has a native link
> into the OSes windowing environment.
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> But after three days of failed attempts to get GSL and plplot to
> compile properly ("[error 1]", why thank you for that valuable
> information) on two otherwise perfectly vanilla machines (one RH9 and
> one Slack10) I'm just a little puzzled and maybe just a tad frustrated.

I've bult GDL on Irix 6.5, RH Fedora 2&3, and Mandrake 9&10. Irix was a bit of a struggle, but the others either have RPMS or the libraries build and install from sources without much trouble.

> Well, OK, maybe quite a bit frustrated. ;)
>
> Why would someone make a current, live, under-development-right-now
> project dependent on things that haven't been included in a distro in
> three years? That require five year old software tools to be built?

If you get things right the first time, you don't have to keep changing them. I pretty sure it will be easier for you to get plplot and gsl working than to rewrite GDL to use some other library, but if you prefer the latter approach nobody will stop you, and if you end up with something better, you might even become a hero.

If you need netcdf and the hdf's your troubles are just beginning -- I found fedora src RPM's which I used to make and install the libraries. GDL linked fine, but my last attempt to use them on Fedora core 3 resulted in a fragile GDL. That may have been due to trying to run an XFS filesystem on the vanilla Fedora kernel (4k stack), but when I try the lastest hdf libraries GDL won't compile (it appears that some names have been changed).

> Well, I haven't given up yet and I'm still trying -- but this obviously
> requires a pretty hefty pot of coffee before it'll run anywhere...

And a pretty hefty linux machine. I'm used to an SGI Octane with 512k RAM. Linux seems to need 1G RAM perform reliably on the same size data sets that worked with 512k on Irix.

> I'll let y'all know if/when I ever manage to get this working.

I find GDL very useful for simple tasks when real IDL tells me there aren't any licenses available and on machines where we haven't installed IDL.

There are also big advantages to having source -- some of our IDL jobs have recently started giving errors writing large HDF files and I would like to see if using O_SYNC with open() helps.

--
George White <aa056@chebucto.ns.ca> <gnw3@acm.org>
189 Parklea Dr., Head of St. Margarets Bay, Nova Scotia B3Z 2G6