Subject: New version of DLMFORM [Re: External c calls broken in IDL 5.5]
Posted by Stein Vidar Hagfors H[1] on Tue, 10 Sep 2002 19:11:24 GMT

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Bob <b_o_b_1962@nospam.yahoo.com> writes:

[....]

> Well, the calls to IDL_AddSystemRoutine in IDL_Load is obsolete and
> should be replaced with IDL_SysRtnAdd which uses IDL_SYSFUN_DEF2
> structure instead of the IDL_SYSFUN_DEF structure (I think this
> changed in IDL 5.4 but am not sure). However, it does still work
> the way you have it.

The new version corrects this, using IDL_SysRtnAdd for version > 5.3
(which, according to my edg.pdf is the version that obsoleted the
other one).

> A bigger problem I have is that the array dimensions for output
> arrays are usually off by one in the c-code generated by dlmform
> when there is an array in the fortran code.

Fixed...

[...]
>   subroutine test(x,y,n)
>   integer n
>   real x(n), y(n)
>   do i=1,n
>   y(i) = x(i)*x(i)
>   enddo
>   end

However, I'd like to comment on this example (although it is obviously
a trivialized one), that the same [better!] functionality can be
written as

        real function test(x)
        real x
        test = x*x
        end

Instead of saying e.g.

        TEST,X,Y,N_ELEMENTS(X)

you can now (thanks to the automatic arrayification of scalar
routines) say

Y = TEST(X)

If you prefer procedures to functions, a scalar "subroutine test(x,y)"
would do the trick, so you could say "TEST,X,Y".

In more complex, general cases, when (some) input and output arrays
have the same dimensionality, it's almost trivial to use the input
dimensionality directly, editing out the extra variable being passed
(N).

> And last, I'll ask you this since you seem to know you way around. Is it
> possible to catch errors in the fortran code so that one ends up at the IDL
> prompt instead of core dumping IDL?

Not unless you can tell me how to catch those errors in fortran! (I
don't believe fortran has exceptions...).

I've also done some other changes to the program, among other things
it will no longer create [core-dumping] functions trying to return
complex values (instead, a warning & no function). Pick it up at

http://www.astro.uio.no/~steinhh/idl/dlmform.html

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