Subject: Re: idl and R
Posted by ben.bighair on Fri, 04 Apr 2008 14:58:47 GMT
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On Apr 4, 5:26 am, rlaybe...@hotmail.com wrote:
> Hi
>
> Does anybody have a summary of the major differences between R and
> idl? I have been using idl for years and have never used R. I
> understand R is statistics orientated, but does it do anything that
> idl can't or does it do it better?
>

Hi,

I have been using R for about a year - this is part of the plan in one project to replace IDL with ImageJ and R as we move toward open source software. I still use IDL extensively for other projects. I haven't hit a real "comfort level" with R, but I have used it as a general purpose language for working with text files - mostly things that can be managed as data.frames (simple spreadsheet-like data structures.) In IDL I had built extensive OO libraries around handling vectors of simple structures that are quite analogous to data frames in R.

I, too, thought of R as statistics oriented - and it sure has a lot going for it in that realm - but my year-into-it-now sense is that it is better to call it a general purpose language. Keep in mind I haven't really had much formal training in programming.

Perhaps first and foremost - the user group around R, like this one around IDL, is very helpful. It is also a lot bigger.

Second - library distribution is a snap in R. The base package of R has a lot of stuff in it, but sometimes you need to import extra stuff (like mapping tools for instance). I found it *incredibly easy* to do so. (This is very much unlike my experience with Python on PPC Mac - great software but what a mess adding SciPy libraries.)

One thing I haven't noodled out about R is object inheritance. In R there are two distinct layers of object-oriented programming - the oldish S3 and the newish S4 styles. I haven't been able to penetrate the S4 paradigm which I gather is more akin to the OO paradigm in IDL. So for now I have single files of multiple functions that accept my data object as an argument. I really couldn't call that OO work with a heap variable - there is a whole lot of copying arguments going on. I really miss the simplicity of the IDL OO paradigm.

I haven't jumped into any GUI/Widget stuff with R. That kind of stuff requires extra libraries (Tk/Tcl, Wx, etc.) which are easy to load, but each has its own API. Recently a limited "gWidget" system has been introduced for R that provides a consistent API regardless of which widget toolkit the user chooses to use underneath. I think this has the flavor of IDL's widgets (with Motif or Windows underneath) - I hope to dive into that someday.

I don't pay too much attention to computing power things, but here is a dated comparison of R with some other languages (but not IDL)... http://www.sciviews.org/benchmark/index.html

Hope that is helpful.

Ben
