Subject: JHU/APL IDL library update
Posted by sterner on Mon, 11 Apr 1994 19:28:53 GMT
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Stephen Strebel's post of my IDL timing routine triggered this update.
That routine will not work by itself, it calls other routines from my
library. But more important, the posted version is out of date, it
has been upgraded to have much higher time resolution so should be
much more useful. It still measures elapsed time, not cpu time, so
a loaded system will give higher times than an empty one.

It's been awhile since I've updated these libraries. I've been using
IDL to make color shaded relief maps of the U.S. (for now). You may
find them interesting, they are on the same site as the IDL libraries
(see below) but in the directory pub/gifmap (get readme.txt).

My standard update announce follows below.

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JHU/APL IDL anonymous ftp site update notice
The latest update was made on 1994 Apr 11.

fermi.jhuapl.edu IDL library ftp site description

Purpose of this ftp site

This ftp site contains several JHU/APL IDL libraries.

The library routines fall into the following broad categories:
Text Files, Text strings, Date & time routines, Information,
Plotting/Graphics, Imaging, Array processing, Math, Programming,
Widget tools, Library maintenance and documentation, and Miscellanious.
One demonstration library is currently included for the eqv routine.

Accessing the ftp site (Make sure you use ftp, not telnet)
---
ftp fermi.jhuapl.edu (128.244.147.18)
For Name type: anonymous
For Password enter: your email address (ex: sterner@tesla.jhuapl.edu).
Change directory by entering: cd pub/idl
Set the correct transfer type: ascii (for README, cat.one, doc_guide.txt)
or binary (for the *.Z files).
To get a file enter: get filename
When finished enter: bye.

Get the ascii file README (~5.6k byte) for a guide to this ftp site.
You may also want to get the one line description file cat.one (~29kb).

What's New

Equation viewer: Some demonstration equation files have been included (in eqv_demo.tar.Z). You may submit interesting eqv files by email to be included in this demo directory. This is a fun routine to play with and might even be useful for manually fitting a complicated curve or maybe for teaching purposes. I wouldn't try it on a very slow computer.

Time series plots: A new routine, jsplot, has been added that works in Julian Seconds (JS), the number of seconds after 2000 Jan 1 0:00 (current times are < 0). I have found JS to be very useful and have a number of support routines (see cat.one). This calling syntax is similar to plot,x,y except time in JS is used instead of x: jsplot, js, y. Most plot keywords are handled. Bad data is handled using MAX_VALUES like plot. Data gaps is handled using GAPS=max_sec. The time axis is labeled in calendar date and/or time (format may be specified).

Graphics may be thickened: A new routine, thicken, allows lines and curves to be made thicker in an existing image. A better viewgraph is possible by making a large image (2000 x 1500 works well) using a pixmap or scrolling window (see swindow). Use large size vector text, like size 5 for axis labels and other text. Then read back image from window and use thicken to make the text and lines thicker (the charthick keyword doesn't work too well). Text to thicken is specified by color index.

Image viewer: A new routine, xview, may be used to display an image in one of a number of formats supported by IDL. A screen image may be saved in one of a number of formats. A set of tools allow a number of useful operations on an image. Not completed yet but still very useful.

RES file routines upgraded: RES files (results files) have been in the library for quite some time but probably few have tried them. They allow mixed types of data to to saved in an unformatted file by tag name. This makes it possible to make a res file quite self documenting. This technique also allows random access to the data items in the file. resget now allows tag names to be abbreviated, so longer, more descriptive names are more practical. Take a look at res files, you might find them useful (don't forget to resclose a file after using it).

Interactive lines: the routines hori and veri, interactive horizontal and vertical lines, now allow the coordinates to be reformatted by a user specified function for display. I made a plot using Julian Days (JD) on the X axis. JDs are ugly numbers but I specified the function jd2date as the x formatting function to veri and could directly read dates from the plot. Still needed is a keyword to set the display length so for now keep the output fairly short.

Text file explorer: A new routine, xtextfile, is a widget based routine to examine a text file. Slider bars allow scrolling through the file at various speeds, one of which may be specified in characters per step (useful for checking record sizes). Characters may be replaced before display, useful for showing non-printable characters. I wrote and used

this program to figure out how to read the Digital Elevation Model data available from the USGS over the net (couldn't find a format description, but with this routine didn't need it).

A single mouse button variable size box routine: A new routine, box1, was written to be portable to PCs and Macs. If I rememeber correctly it wasn't all that great on a Mac (because of a bug in Mac IDL) but may be in future Mac IDL versions. It has a widget based status dispay which might be useful.

A number of other new routines and upgrades were also made.

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