Subject: IDL 5.2.1 bug? R_Correlate & IDL_Crank
Posted by barrios_a on Tue, 26 Oct 1999 07:00:00 GMT
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Has anyone discovered this problem? I've been doing some heavy data analysis using IDL's rank correlation function:

rank = r_correlate(xarray, yarray)

where "xarray" and "yarray" are both 881-element vectors (with a lot of ties). The problem is that I get drastically different rank correlation numbers between IDL's r_correlate routine and the Numerical Recipes Fortran "spear" routine that does the same thing. Since IDL basically uses the NR routines these should be identical, however, I traced the problem to IDL's idl_crank.pro function in which this statement

s=s + t^3 - t

gives the incorrect result, when comparing line by line with the Fortran code. The reason is that "t" is computed with integer values - in the previous line t=jt-j (both "jt" and "j" are integers); and if "t" is large (which it is in my case), then "t^3" becomes greater than 32,256 and returns a negative number. A simple fix is to replace this line at the beginning of the routine

j=1

with this line

j=1.0

This forces "t" to become a floating point variable and makes both IDL and NR Fortran routines give identical rank correlation numbers for identical data sets. Anyone else have this problem or know of any more IDL mathematical routines that have similar bugs?

Amalia