dean@phobos.cira.colostate.edu wrote:

: How come the following expression gives the wrong answer.

:   J = 201+((1461*(1994+4799))/4)-(3*((1994+4899)/100)/4)-2465022

:   J = -2457713

: It should be:

:   J = 201+((1461.*(1994+4799.))/4.)-(3.*((1994+4899.)/100.)/4.)-24 65022.

:   J = 16270.5

The system starts off assuming j will be an integer, because that's what all the
arguments are. After a while, it runs out of room in a 16 bit integer and
converts to a long, where it stays, having acquired some novel errors on the way.

To get what you *really* want, tell IDL/Wave you expect a floating point
calculation, which is achieved by making the arguments floating point to begin
with, so:

j=201.0+((1461.0* etc etc. will give you the right answer.

If you want to see exactly where the problem lies, follow through your original
calculation step by step and check the *type* of j after each step. This should
throw some light onto how and why your original went wrong.

Pete.
--
Peter Clinch   University of Dundee
voice 44 382 60111 x 2604   Department of Medical Physics
fax   44 382 640177   Ninewells Hospital
email p.j.clinch@dundee.ac.uk Dundee, DD1 9SY, Scotland, UK