Subject: Re: Patch to userlib/deriv.pro to add MAX_VALUE keyword
Posted by thompson on Mon, 27 Dec 1993 16:04:52 GMT
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rfinch@water.ca.gov (Ralph Finch) writes:

> Following context diff, when run through patch, will add the MAX_VALUE
> keyword to the userlib function deriv.pro. However, I still believe
> it would be better if IDL had the fundamental notion of missing values
> built-in to their basic mathematics; IEEE NaN might be a good choice.
> If IDL understood NaN's, you wouldn't even need keywords for missing
> values or max_value (presuming that most usage of MAX_VALUE really is
> for missing values).

However, not all computer platforms use the IEEE standard. A notable exception is Digital's VAX platform, which represents a large proportion of IDL's users--in fact IDL came out of the VAX/PDP world before it was ported to Unix, etc. As far as I know, there's no equivalent concept to NaNs in the VAX architecture.

Bill Thompson

P.S. Although Digital's Alpha workstations support both the VAX and IEEE floating point standards, my understanding is that IDL uses the VAX floating point representation, at least within OpenVMS, for backwards compatibility with the VAX/VMS architecture. I'm not sure which is used in OSF/1, although it would seem most advantageous to use the IEEE format for compatibility with MIPS/Ultrix workstations. I'm also not certain whether there's a performance tradeoff between using VAX and IEEE floating point numbers on the Alpha.