Subject: Re: Patch to userlib/deriv.pro to add MAX_VALUE keyword
Posted by thompson on Mon, 27 Dec 1993 23:23:32 GMT
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schmitt@ccfsun.nrl.navy.mil (Andrew Schmitt) writes:

> This is somewhat besides the point of the original posting, but it has to do
> with a (granted, nitpicking) bug in the userlib routine deriv.pro.
> You might as well fix it when you make the posted patch.

> Basically, here's a use of "float(...)" in deriv.pro that is unneeded,
> and makes the resulting answer wrong and/or inaccurate if any other type
> of data (complex, double, ...&c) is passed as the Y value.
> The unneeded usage of float occurs about here:

>>   d = float(shift(y,-1) - shift(y,1))/(shift(x,-1) - shift(x,1))
>   ^^^^^
> remove the "float", and the applicability of the routine improves.

Not having looked at the original source code, I'm not sure if this is the
case, but one can imagine that problems could occur if the call to FLOAT is
removed and SHIFT is one of the integer types. Another way to get around this,
without leading to errors if SHIFT is double-precision or complex, is to insert
a multiplication by 1.0 somewhere, e.g.

```
  d = (1.0*shift(y,-1) - shift(y,1))/(shift(x,-1) - shift(x,1))
```

Of course, this does lead to some inefficiencies.

Bill Thompson