
Subject: Re: matrix division

Posted by [Paul Van Delst\[1\]](#) on Thu, 22 May 2008 16:19:57 GMT

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David Fanning wrote:

> jameskuyper@verizon.net writes:

>

>> For the integer case:

>>

>> ratio = numerator/denominator

>> bad = WHERE(denominator eq 0, count)

>> IF count gt 0 THEN ratio[bad] = replacement_value

>>

>> replacement_value needs to be carefully chose for the context of your
>> problem. You might want to give different replacement values depending
>> upon whether the numerator is positive, negative, or 0. There's
>> probably a more elegant approach, but three different WHERE's would
>> certainly be sufficient to cover those cases.

>>

>> For the floating point case, IDL fills in the relevant elements of
>> ratio with -Inf, Nan, or Inf, depending upon the sign of the
>> numerator, and I can't think of any better way of handling it than to
>> use precisely those value. If you need to use your result for further
>> computations where those values would be unacceptable, replace them,
>> with logic similar to the above, but using the FINITE() function.

>

> Shoot. I was hoping for an elegant solution. :-(

For something like this, the Fortran WHERE construct is teeny bit more elegant, e.g.

```
real, dimension(100,100) :: ratio, numerator, denominator
....
where (abs(denominator) > 0.0)
  ratio = numerator/denominator
elsewhere
  ratio = -999.9
end where
```

I like the fact that I don't have to explicitly use any indices indicated where good or bad values are.

Anyway....

cheers,

paulv
