
Subject: Re: Floating point error
Posted by [Craig Markwardt](#) on Sat, 12 Apr 2003 20:20:50 GMT
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Kenneth Bowman <k-bowman@null.tamu.edu> writes:

```
> I am trying to scatter a vector "data" into an array "array" using array
> subscripts. "data" contains some NaNs.
>
> This causes floating point exceptions, even though no "operation" is
> taking place.
>
> IDL> help, i, j, h, data, array
> I          LONG    = Array[176779]
> J          LONG    = Array[176779]
> H          LONG    = Array[176779]
> DATA      FLOAT   = Array[176779]
> ARRAY      FLOAT   = Array[720, 160, 24]
> IDL> array[i,j,h] = data
> % Program caused arithmetic error: Floating illegal operand
> IDL> q = data      ;Copy data
> IDL> q[*] = 0.0     ;Get rid of NaNs
> IDL> array[i,j,h] = q ;No problem
>
> If this is a feature, it is going to make using NaNs very difficult.
```

How about,
wh = where(finite(data), ct)
if ct GT 0 then array(i(wh), j(wh), h(wh)) = data(wh)

If you have repeats in your I,J,H data, and you want to sum over those repeats, then you should use the dirty tricks that JD, I, et al. have discussed in the past, primarily using the evil HISTOGRAM.

Craig

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Craig B. Markwardt, Ph.D. EMAIL: craigmnet@cow.physics.wisc.edu
Astrophysics, IDL, Finance, Derivatives | Remove "net" for better response

Subject: Re: Floating point error
Posted by [K. Bowman](#) on Mon, 14 Apr 2003 14:40:21 GMT
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After a great deal of further mucking around, this appears to be a

version-dependent bogus error message. It only happens on the Linux version 5.6.

Ken

```
IDL> help, data
DATA      FLOAT   = Array[176779]
IDL> k = WHERE(FINITE(data), count)
% Program caused arithmetic error: Floating illegal operand
IDL> print, count
    175800
IDL> print, !version
{ x86 linux unix linux 5.6 Oct 26 2002    32    64}
```

```
IDL> help, data$<3>
DATA      FLOAT   = Array[176779]
IDL> k = where(finite(data), count)
IDL> print, count
    175800
IDL> print, !version
{ mipseb IRIX unix IRIX 5.5 Aug 28 2001    32    64}
```

```
IDL> help, data
DATA      FLOAT   = Array[176779]
IDL> kk = where(finite(data), count)
IDL> print, count
    175800
IDL> print, !version
{ ppc darwin unix Mac OS X 5.6 Oct 26 2002    32    32}
```

Ken Bowman

Subject: Re: Floating point error
Posted by [Craig Markwardt](#) on Tue, 15 Apr 2003 02:31:07 GMT
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Kenneth Bowman <k-bowman@null.tamu.edu> writes:
> After a great deal of further mucking around, this appears to be a
> version-dependent bogus error message. It only happens on the Linux
> version 5.6.

...

> % Program caused arithmetic error: Floating illegal operand

Sad as it is, I basically ignore the floating point error messages that come out of IDL. Their use is close to nil.

Better to check any values that need to be finite and enforce that constraint, than to rely on error messages that may or may not come from IDL.

Craig

--

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