Subject: Re: median function

Posted by Pavel Romashkin on Wed, 21 Jul 1999 07:00:00 GMT

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I ran into this limitation but spent no time thinking whether its right or wrong. I just used FINITE function to clean up arrays before using MEDIAN. It gets the job done not any worse than if a /NAN keyword were available. After all, /NAN should not be allowed in calls to MEDIAN which, by definition, should return the medium point of the (sorted) array. Since NAN is not a number, there is no way to treat it numerically correctly.

Good luck, Pavel

Subject: Re: median function

Posted by Dick Jackson on Thu, 22 Jul 1999 07:00:00 GMT

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Hi Harald,

Harald Frey wrote:

>

- > I see a problem in the median function and would like to get your
- > general opinion.

>

> 1. The median function has no /Nan option like total or mean.

I think you will be happy to know that the newly-released IDL 5.2.1 (see www.rsinc.com for your update!) has the following release note:

MEDIAN Function Improvement:

The MEDIAN function now treats NaN values as missing data.

- > IDL> a=findgen(9)
- > IDL> print,total(a),mean(a),median(a)
- > 36.0000 4.00000 4.00000
- > IDL> a[0]=!values.f_nan
- > IDL> print,total(a),mean(a),median(a)
- > NaN NaN 4.00000
- > % Program caused arithmetic error: Floating illegal operand

That was in 5.2, but now in 5.2.1, after the same instructions:

IDL> print,total(a),mean(a),median(a)

NaN NaN 5.00000

- > 2. The Nan values are not properly handled in the determination of the
- > median. In the first case the Nan values are interpreted as 0. and in
- > the second case as very large.

>

- > IDL> a=findgen(9)
- > IDL> a[0]=!values.f_nan
- > [...]
- > IDL> a[1]=!values.f_nan
- > IDL> print,a
- > NaN NaN 2.00000 3.00000 4.00000
- > 5.00000
- > 6.00000 7.00000 8.00000
- > IDL> print, median(a)
- > 6.00000
- > % Program caused arithmetic error: Floating illegal operand

Again, with the new 5.2.1:

IDL> print,median(a) 5.00000

I think you will find this satisfactory!

Cheers,

--

-Dick

Dick Jackson Fanning Software Consulting, Canadian Office djackson@dfanning.com Calgary, Alberta Voice/Fax: (403) 242-7398 Coyote's Guide to IDL Programming: http://www.dfanning.com/