
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

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