
Subject: Re: MEDIAN and double?

Posted by [Pavel A. Romashkin](#) on Fri, 17 May 2002 21:38:16 GMT

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I always thought that MEDIAN in Double is just

```
print, (the_data[sort(the_data)])[n_elements(the_data)/2]
```

but I may be wrong.

Cheers,

Pavel

Craig Markwardt wrote:

>

> Is it true that MEDIAN only works in single precision? I've tried to
> use a /DOUBLE keyword and it doesn't have one. This is kind of a
> stumper since I certainly do use MEDIAN on double precision
> data... :-)

>

> Craig

>

> --

> -----

> Craig B. Markwardt, Ph.D. EMAIL: craigmnet@cow.physics.wisc.edu

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Subject: Re: MEDIAN and double?

Posted by [thompson](#) on Fri, 17 May 2002 22:18:32 GMT

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That's very strange. It appears that MEDIAN always returns a floating point value, even if the input array is integer. I suspect this is because of the /EVEN keyword, where it interpolates between two values if the number of points is even. It should be smarter than that.

William Thompson

"Pavel A. Romashkin" <pavel_romashkin@hotmail.com> writes:

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Subject: Re: MEDIAN and double?

Posted by [Craig Markwardt](#) on Sat, 18 May 2002 02:49:01 GMT

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"Pavel A. Romashkin" <pavel_romashkin@hotmail.com> writes:

> I always thought that MEDIAN in Double is just

>

> print, (the_data[sort(the_data)])[n_elements(the_data)/2]

That works for a single number, but the nice part about MEDIAN is that
it can be applied with a sliding window, as in,

```
ysmooth = median(y, window)
```

But, if your data have double precision then YSMOOTH is not always
high enough precision to respect the original data. Or, at least,
mine didn't.

For example, consider:

```
IDL> print, median(1d + 2.4d-9 + [0,0]) - 1  
0.00000
```

Whoops!

Craig

--

Craig B. Markwardt, Ph.D. EMAIL: craigmnet@cow.physics.wisc.edu
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