
Subject: median function

Posted by [Harald Frey](#) on Wed, 21 Jul 1999 07:00:00 GMT

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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.

```
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
IDL> print,total(a,/nan),mean(a,/nan),median(a,/nan)
% Keyword NAN not allowed in call to: MEDIAN
% Execution halted at: $MAIN$
IDL> print,total(a,/nan),mean(a,/nan),median(a)
    36.0000    4.50000    4.00000
% Program caused arithmetic error: Floating illegal operand
```

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> print,a
    NaN    1.00000    2.00000    3.00000    4.00000
5.00000
    6.00000    7.00000    8.00000
IDL> print,median(a)
    4.00000
% Program caused arithmetic error: Floating illegal operand
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
```

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