
Subject: Re: Filtering out NaNs
Posted by [bowman](#) on Thu, 20 Mar 1997 08:00:00 GMT
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In article <5grgr3\$7ih@News.Dal.Ca>, sritcey@is.dal.ca (Stephen Ritcey) wrote:

> while Ken Bowman suggested using the FINITE function:
>
> b= a (finite (a)) ; exclude what? (see below)
>

>
> What exactly does FINITE do on IDL?

You may also find the new IDL system variable, !VALUES handy.

```
IDL> HELP, !VALUES, /STRUCT
** Structure !VALUES, 4 tags, length=24:
  F_INFINITY  FLOAT      INF
  F_NAN        FLOAT      NaNQ
  D_INFINITY  DOUBLE     INF
  D_NAN        DOUBLE     NaNQ
```

```
IDL> x = FINDGEN(3)
IDL> x(1) = !VALUES.F_NAN
IDL> x(2) = !VALUES.F_INFINITY
IDL> PRINT, x
    0.00000    NaNQ    INF
IDL> PRINT, WHERE(x EQ !VALUES.F_NAN)
    -1
IDL> PRINT, WHERE(x EQ !VALUES.F_INFINITY)
     2
IDL> PRINT, FINITE(x)
    1  0  0
```

So in IDL, at least, infinity is equal to infinity, but NAN is not equal to NAN. FINITE returns false for both infinity and NAN with no error message.

BTW, this is on:
IDL. Version 4.0.1a (OSF alpha).
Your mileage may vary by platform.

One last tidbit

```
IDL> x(2) = -!VALUES.F_INFINITY
IDL> print, x
      0.00000      NaNQ      -INF
IDL> PRINT, WHERE(x EQ !VALUES.F_INFINITY)
      -1
```

So you can test for + or - infinity.

Ken Bowman

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Kenneth P. Bowman, Assoc. Prof. 409-862-4060
Department of Meteorology 409-862-4132 fax
Texas A&M University bowman@csrp.tamu.edu
College Station, TX 77843-3150
Satellite ozone movies on CD-ROM --> <http://www.lenticular.com/>
