Subject: Re: Philosophical Question about NAN
Posted by R.Bauer on Tue, 18 Nov 2008 00:38:18 GMT
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Sometimes I wish people would use a defined missing value instead on
NaN. NaN is only defined for float and double.
If a NaN value is in you data everything can become difficult.

```
IDL> a=[!values.f_nan,0,3,5]
IDL> print,max(a)
        NaN
IDL> print,min(a)
        NaN
IDL> if a[0] gt 1 then print, 'yes' else print, 'no'
no
IDL> if a[0] lt 1 then print, 'yes' else print, 'no'
no
IDL> if a[0] eq 1 then print, 'yes' else print, 'no'
no
```

if you have read until here you may wonder about this

```
IDL> if !values.f_nan eq !values.f_nan then print,'yes' else print, 'no'
no
```

Idl says "no"!!

For functions we can easily set a key so that NaN numbers can be handled
differently but if the default is to search for NaN a lot of other
places needs a lot of changes.

cheers

Reimar

Kenneth P. Bowman schrieb:
> In article <MPG.238b3491ef337cc798a534@news.giganews.com>,
> David Fanning <news@dfanning.com> wrote:
>
>> Folks,
>>
>> I've had a couple of run-ins lately with NANs and I wonder
>> why routines like TOTAL and MEAN don't have the NAN keyword
>> set to 1 by default. Why does the user have to set it?
>>
>> I understand the argument that the NAN capability was
>> added as an afterthought (or more likely when someone
>> standardized the NAN bit pattern), and so the functionality

>> was added as an optional addition that enhanced the function
>> rather than changed it. But really...is there a reason
>> why it is not the default now?
>>
>> One could argue, I suppose, that having a program stumble
>> over a NAN alerts you to its presence in your data. That
>> is useful, certainly. But, typically, once I add a NAN
>> keyword to my code, I don't know (nor do I or care) if the
>> argument has NANs. Is this lazy programming on my part?
>>
>> I am just wondering whether not setting the default value
>> of the NAN keyword to 1 on routines like TOTAL, MEAN,
>> et. al is the functional equivalent of not setting the
>> default values of the COLOR and BITS_PER_PIXEL keywords
>> to the PostScript device to something useful by default.
>> That is, an act of negligence on the part of the
>> manufacturer.
>>
>> What say you?
>>
>> Cheers,
>>
>> David
>
> HI David,
>
> I think they chose correctly and erred on the side of safety.
>
> If I know there are Nans in my data, I'll take care of it.
>
> If there are Nans in the data that I don't expect, I don't want to
> have to set a keyword somewhere to find that out. That is, I don't
> want IDL to automatically skip those Nans.
>
> OTOH, I still find this to be frustrating and dangerous
>
> IDL> PRINT, TOTAL(REPLICATE(!VALUES.F_NAN, 5), /NAN)
>   0.00000
>
> There are no valid numbers in the input vector, but TOTAL
> returns a valid FLOAT. This makes the NAN keyword useless
> in many situations.
>
> Ken