Subject: replacing "NAN" values using interpolation in IDL Posted by abc on Thu, 17 Jan 2013 10:02:14 GMT

View Forum Message <> Reply to Message

Dear all, I have an data array. I have many "NaN" values. I want to replace those "NaN" values by the nearby values either using interpolation. Is there any way to do that in IDL.

Thanks in advance

Subject: Re: replacing "NAN" values using interpolation in IDL Posted by Dick Jackson on Wed, 30 Jan 2013 00:47:19 GMT View Forum Message <> Reply to Message

Dear idlhelp,

That's even easier, assuming that you mean that your data 'x' values are evenly spaced, and can be considered to be [0, 1, 2, ...]

Building on Jeremy's work:

```
; sample data data = [0., !values.f_nan, 10., 15., !values.f_nan, !values.f_nan, 5., 4., 5.]
```

; figure out where there are NaNs and where the useful data are ; Dick prefers "Finite(data)" to "data EQ data" for finding non-NaN :-) gooddata = where(Finite(data), ngooddata, comp=baddata, ncomp=nbaddata)

; interpolate at the locations of the bad data using the good data if nbaddata gt 0 then data[baddata] = interpol(data[gooddata], gooddata, baddata)

Hope this helps!
-Dick

Dick Jackson Software Consulting Victoria, BC, Canada www.d-jackson.com

On Monday, January 28, 2013 9:27:36 AM UTC-8, idlhelp wrote:

> On Thursday, January 17, 2013 4:05:11 PM UTC+1, Jeremy Bailin wrote:

>> On 1/17/13 4:02 AM, idlhelp wrote:

>>> Dear all, I have an data array. I have many "NaN" values. I want to replace those "NaN" values by the nearby values either using interpolation. Is there any way to do that in IDL.

>>>

>>> Thanks in advance

>

```
>> Yes, there is.
>>
>> Oh, you want to know how? ;-)
>> I would do something like this, if I had an array of locations x and a
>> data array data:
>>
>> ; sample data
>> x = [1., 2., 3., 5., 7., 7.5, 9., 12., 12.1]
>> data = [0., !values.f nan, 10., 15., !values.f nan, !values.f nan, 5.,
>> 4., 5.]
>>
>> ; figure out where there are NaNs and where the useful data are
>> gooddata = where(data eq data, ngooddata, $
     comp=baddata, ncomp=nbaddata)
>>
>> ; interpolate at the locations of the bad data using the good data
>> if nbaddata gt 0 then begin
     data[baddata] = interpol(data[gooddata], x[gooddata], x[baddata])
>> endif
>> -Jeremy.
> Thanks Jeremy, but the problem I am having is that I don't have any sample data 'x'. I have
only 'data' and want to use that 'data' file again for interpolating and replacing the NaN value. Any
Idea how to do that.
> thanks
```

Subject: Re: replacing "NAN" values using interpolation in IDL Posted by Jeremy Bailin on Wed, 30 Jan 2013 02:37:23 GMT View Forum Message <> Reply to Message

> ; Dick prefers "Finite(data)" to "data EQ data" for finding non-NaN :-)

I must admit, the silliness factor is the main reason I use the "data EQ data" convention. :-)

-Jeremy.

Subject: Re: replacing "NAN" values using interpolation in IDL Posted by David Fanning on Wed, 30 Jan 2013 03:12:08 GMT View Forum Message <> Reply to Message

Jeremy Bailin writes:

```
> I must admit, the silliness factor is the main reason I use the "data EQ > data" convention. :-)

Ha, ha! I love this newsgroup. ;-)

David
```

David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Subject: Re: replacing "NAN" values using interpolation in IDL Posted by Carsten Lechte on Wed, 30 Jan 2013 09:18:53 GMT View Forum Message <> Reply to Message

On 30/01/13 03:37, Jeremy Bailin wrote:

- > I must admit, the silliness factor is the main reason I use the "data
- > EQ data" convention. :-)

Alas, no silliness without punishment: this method fails on windows IDL <=5.6, see last entry on http://www.idlcoyote.com/math_tips/nans.html. Fortunately, that version is so old, that even MY place of employment has a newer one.

chl

Subject: Re: replacing "NAN" values using interpolation in IDL Posted by Chang Liao on Thu, 11 Apr 2013 14:31:45 GMT View Forum Message <> Reply to Message

On Wednesday, January 30, 2013 4:18:53 AM UTC-5, Carsten Lechte wrote:

> On 30/01/13 03:37, Jeremy Bailin wrote:

> I must admit, the silliness factor is the main reason I use the "data

> EQ data" convention. :-)

>

```
> Alas, no silliness without punishment: this method fails on windows
> IDL <=5.6, see last entry on</p>
> <a href="http://www.idlcoyote.com/math_tips/nans.html">https//mans.html</a>. Fortunately, that
> version is so old, that even MY place of employment has a newer one.
> <a href="https://www.idlcoyote.com/math_tips/nans.html">https://www.idlcoyote.com/math_tips/nans.html</a>. Fortunately, that
> version is so old, that even MY place of employment has a newer one.
> <a href="https://www.idlcoyote.com/math_tips/nans.html">https://www.idlcoyote.com/math_tips/nans.html</a> or employment has a newer one.
> <a href="https://www.idlcoyote.com/math_tips/nans.html">https://www.idlcoyote.com/math_tips/nans.html</a> or employment has a newer one.
> <a href="https://www.idlcoyote.com/math_tips/nans.html">https://www.idlcoyote.com/math_tips/nans.html</a> or employment has a newer one.
> <a href="https://www.idlcoyote.com/math_tips/nans.html">https://www.idlcoyote.com/math_tips/nans.html</a> or employment has a newer one.
> <a href="https://www.idlcoyote.com/math_tips/nans.html">https://www.idlcoyote.com/math_tips/nans.html</a> or employment has a newer one.
> <a href="https://www.idlcoyote.com/math_tips/nans.html">https://www.idlcoyote.com/math_tips/nans.html</a> or employment has a newer one.
> <a href="https://www.idlcoyote.com/math_tips/nans.html">https://www.idlcoyote.com/math_tips/nans.html</a> or employment has a newer one.
```

Yh, I have read that article as well. This is a pretty interesting topic of handling NAN in data.