Subject: Re: segment vector with missing data
Posted by Chad on Tue, 04 Nov 2008 21:17:18 GMT
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shoot, sent before I was finished...sorry.

>
> good=FINITE(data)
> i=0L
> WHILE i LT N_ELEMENTS(data) DO BEGIN
> IF good[i] EQ 0 THEN i++ ELSE BEGIN
i1=i
WHILE good[i] EQ 1 THEN i++
i2=i-1
seg1=data[i1:i2]
ENDELSE
ENDWHILE

Subject: Re: segment vector with missing data
Posted by David Fanning on Tue, 04 Nov 2008 21:28:57 GMT
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Chad Bender writes:

> This should be an easy problem, but I'm having a hard time figuring it
> out without using a bunch of loops. I've got a vector with N-elements
> (typically N~1000, but could be any number), with some NaNs
> interspersed. Typically, there will be a block of NaNs together, but
> a single NaN by itself is also possible. I want to extract the short
> segments of good data, and their corresponding indices from the
> original vector.

How about this:

goodIndices = Where(Finite(array) EQ 0, COMPLEMENT=badIndices)

The goodIndices finds all the good data, the badIndices
finds all the NANs.

Cheers,

David
--
David Fanning, Ph.D.
Coyote's Guide to IDL Programming (www.dfanning.com)
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: segment vector with missing data
Posted by Jean H. on Tue, 04 Nov 2008 21:30:07 GMT
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Chad Bender wrote:
> Hi all -
>
> This should be an easy problem, but I'm having a hard time figuring it
> out without using a bunch of loops. I've got a vector with N-elements
> (typically N~1000, but could be any number), with some NaNs
> interspersed. Typically, there will be a block of NaNs together, but
> a single NaN by itself is also possible. I want to extract the short
> segments of good data, and their corresponding indices from the
> original vector.
>
> I can do something like this, but there has to be a better way
>
> good=FINITE(data)
> i=0L
> WHILE i LT N_ELEMENTS(data) DO BEGIN
> IF i EQ 0 THEN i++ ELSE BEGIN
>
>
ind= where(finite(data),count)
then, values = data[ind]

Jean

Subject: Re: segment vector with missing data
Posted by David Fanning on Tue, 04 Nov 2008 21:30:10 GMT
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David Fanning writes:

> How about this:
>
> goodIndices = Where(Finite(array) EQ 0, COMPLEMENT=badIndices)
>
> The goodIndices finds all the good data, the badIndices
> finds all the NANs.

Whooops, I probably have my indices reversed. I'm
trying to eat lunch. :-(

Cheers,

David

--
David Fanning, Ph.D.
Coyote's Guide to IDL Programming (www.dfanning.com)
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: segment vector with missing data
Posted by Chad on Tue, 04 Nov 2008 21:37:10 GMT
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On Nov 4, 4:28 pm, David Fanning <n...@dfanning.com> wrote:
> Chad Bender writes:
>> This should be an easy problem, but I'm having a hard time figuring it
>> out without using a bunch of loops. I've got a vector with N-elements
>> (typically N~1000, but could be any number), with some NaNs
>> interspersed. Typically, there will be a block of NaNs together, but
>> a single NaN by itself is also possible. I want to extract the short
>> segments of good data, and their corresponding indices from the
>> original vector.
>
> How about this:
>
> goodIndices = Where(Finite(array) EQ 0, COMPLEMENT=badIndices)
>
> The goodIndices finds all the good data, the badIndices
> finds all the NANs.
>
Yes, that is part of the answer. But then I still need to loop
through the the 'goodIndices' or 'badIndices' vectors to find
continuous segements.

My original posts were too brief because hitting enter seems to
correspond to hitting send in google (which is what I get for not
using a real newsgroup reader). Let me try and describe the problem
better.

These vectors are spectra with missing data. I want to extract each
good segement one at a time so I can perform FFT operations on it. So
I need to parse the index arrays to find continuous segments, get the
beginning and end indices, and store the resulting sub-segment. There
are probably 10 or so continuous sub-segments per spectrum.

It seems to me that there should be some application of HISTOGRAM that
gets me the indices of all of the continuous segments at once, but I
haven't been able to figure it out.

Subject: Re: segment vector with missing data
Posted by Brian Larsen on Tue, 04 Nov 2008 21:47:42 GMT
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While David is on the right track this might not be quite what you want... This could be a label_regions problem if I understand correctly.

you have something like
[1,2,3,NaN,4,3,4,3,NaN,NaN,NaN,4]
and you want
[1,2,3]
[4,3,4,3]
Do I have this right?

If so one solution is:
```
IDL> NaN=!values.f_nan
IDL> a=[1,2,3,NaN,4,3,4,3,NaN,NaN,NaN,4]
IDL> mask=finite(a)
IDL> mask=[0,mask,0] ; stupid edges in label_region
IDL> roi=label_region(mask)
IDL> roi=roi[1:n_elements(roi)-2]
IDL> print, roi
      1       1       1       0       2       2       2       2
0       0
      0       3
```

then use histogram and reverse_indices to pull out the different bins.
```
IDL> hist=histogram(roi, reverse_indices=ri)
```

read http://www.dfanning.com/tips/histogram_tutorial.html to figure this out, I have to each time.

Brian

---------- ----------
Brian Larsen
Boston University
Center for Space Physics
http://people.bu.edu/balarsen/Home/IDL

Subject: Re: segment vector with missing data

Posted by Chad on Tue, 04 Nov 2008 21:51:58 GMT
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On Nov 4, 4:47 pm, Brian Larsen <balar...@gmail.com> wrote:
> While David is on the right track this might not be quite what you
> want... This could be a label_regions problem if I understand
> correctly.
>

Yep, LABEL_REGIONS is exactly what I'm looking for (and independently stumbled into on David's website before checking back here). What a useful function!