Subject: Re: Missing Data Programming Contest
Posted by Homeyer on Thu, 09 Apr 2009 12:41:24 GMT
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On Apr 8, 6:26 pm, Homeyer <cam.the.weather....@gmail.com> wrote:
> On Apr 8, 6:02 pm, Homeyer <cam.the.weather....@gmail.com> wrote:
>
>
>
>> On Apr 8, 8:23 am, David Fanning <n...@dfanning.com> wrote:
>
>>> Folks,
>
>>> I don't have time today to think about this, so I've
>>> decided to get you to do my thinking for me. :-)
>
>>> Suppose you are expecting a data array and you suspect
>>> the data has "missing values" in it that you wish to
>>> exclude from further processing. You write a keyword
>>> for your routine that allows the user to pass in what
>>> he is using for the "missing value".
>
>>> PRO Junker, data, MISSING_VALUE=missing_value
>
>>> How would you write the code to assure that this missing
>>> value would be excluded from further processing?
>
>>> You should assume:
>
>>> 1. The data can be any data type except complex or string.
>
>>> 2. The missing value *could* be !VALUES.F_NAN.
>
>>> 3. Unsophisticated users might be using your program,
>>> so, for example, they might pass in a missing value
>>> such as 594.32.
>
>>> No, this is NOT my homework! But I do need it ASAP. ;-)
>
>>> Cheers,
>
>>> David
>>> --
>>> David Fanning, Ph.D.
>>> Fanning Software Consulting, Inc.
>>> Coyote's Guide to IDL Programming:http://www.dfanning.com/
>>> Sepore ma de ni thui. ("Perhaps thou speakest truth.")
>

>> The following should suffice:
>
>> IF (missing_value GT 0) THEN BEGIN
>> type = SIZE(array, /TNAME)
>
>> CASE type OF
>> 'COMPLEX' : MESSAGE, 'Complex values not allowed for removing
>> MISSING data.'
>> 'STRING' : MESSAGE, 'String values not allowed for removing
>> MISSING data.'
>> ELSE : invalid = WHERE((array EQ missing_value), iv_count,
>> COMPLEMENT = valid, NCOMPLEMENT = v_count)
>> ENDCASE
>
>> IF (v_count GT 0) THEN array = array[valid]
>> ENDIF
>
>> That is, if you dont care about overwriting the original data or it is
>> not gridded. If it is gridded (data points with missing values should
>> remain), then you could replace those with NaNs in the final array
>> using the indices above.
>
>> Cheers,
>> Cameron Homeyer
>
> oops, missed the NaN part:
>
> This would go before the last IF (v_count...
>
> IF (~FINITE(missing)) THEN invalid = WHERE(~FINITE(array), iv_count,
> COMPLEMENT = valid, NCOMPLEMENT = v_count)

The first IF statement should be "IF (N_ELEMENTS(missing_value) GT 0)
THEN BEGIN" as well.
