
Subject: moment functions with dimen keyword

Posted by [Jeremy Bailin](#) on Thu, 20 Nov 2008 00:08:46 GMT

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Someone mentioned the desirability of having the mean, etc. functions take a dimension keyword. It struck me as such a good idea that I spent this afternoon making versions of the built-in MOMENT, MEAN, VARIANCE, STDDEV, SKEWNESS and KURTOSIS functions so that they accept a DIMEN= keyword that works as you'd expect.

However, given that the majority of the code and documentation is from the original files[*], and is therefore copyright ITT, it's clearly not kosher for me to distribute them. Would people be interested in a "diff" that could be used to patch the built-in functions to generate the new ones (which I assume would be okay)? Or can anyone think of another solution? Or is this something that no one really needs anyway? :-)=

-Jeremy.

[*] Actually, while the code in MOMENT remains largely the same, the code for the other functions is entirely re-written, it's just that the documentation is essentially identical. So I could in principle re-write the documentation for those and distribute them legitimately... but that won't work for MOMENT_D.

Subject: Re: moment functions with dimen keyword

Posted by [Foldy Lajos](#) on Thu, 20 Nov 2008 14:45:56 GMT

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On Thu, 20 Nov 2008, Paolo wrote:

> I have done the same last year with moment....
> and I am sure many others did! (to save execution
> time, I added a keyword maxmoment, such that it
> does not compute the kurtosis if I only need the average).

IDL 6.4's MOMENT has a MAXMOMENT keyword. Use the source, Luke!
(not the documentation :-)

regards,
lajos

```
; CALLING SEQUENCE:  
;   Result = Moment(X)  
;  
;  
; INPUTS:
```

; X: An N-element vector of type integer, float or double.
;
; KEYWORD PARAMETERS:
; DOUBLE: IF set to a non-zero value, computations are done in
; double precision arithmetic.
;
; MDEV: Use this keyword to specify a named variable which returns
; the mean absolute deviation of X.
;
; SDEV: Use this keyword to specify a named variable which returns
; the standard deviation of X.
;
; MAXMOMENT:
; Use this keyword to limit the number of moments:
; Maxmoment = 1 Calculate only the mean.
; Maxmoment = 2 Calculate the mean and variance.
; Maxmoment = 3 Calculate the mean, variance, and skewness.
; Maxmoment = 4 Calculate the mean, variance, skewness,
; and kurtosis (the default).
;
; NAN: Treat NaN elements as missing data.
; (Due to problems with IEEE support on some platforms,
; infinite data will be treated as missing as well.)

Subject: Re: moment functions with dimen keyword
Posted by [pgrigis](#) on Thu, 20 Nov 2008 15:22:56 GMT
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FÖLDY Lajos wrote:

> On Thu, 20 Nov 2008, Paolo wrote:

>

>> I have done the same last year with moment....

>> and I am sure many others did! (to save execution

>> time, I added a keyword maxmoment, such that it

>> does not compute the kurtosis if I only need the average).

>

> IDL 6.4's MOMENT has a MAXMOMENT keyword. Use the source, Luke!

Correct my statement "I added" to "RSI added"

(it's hard to remember what I did last week,
not to mention one year ago...)

Yes, I shamelessly modified the source code.

But I am not distributing it, so I don't think

I am in violation of copyright.

Ciao,
Paolo

```
> (not the documentation :-)
>
> regards,
> lajos
>
> ; CALLING SEQUENCE:
> ;   Result = Moment(X)
> ;
> ; INPUTS:
> ;   X:   An N-element vector of type integer, float or double.
> ;
> ; KEYWORD PARAMETERS:
> ;   DOUBLE: IF set to a non-zero value, computations are done in
> ;           double precision arithmetic.
> ;
> ;   MDEV: Use this keyword to specify a named variable which returns
> ;         the mean absolute deviation of X.
> ;
> ;   SDEV: Use this keyword to specify a named variable which returns
> ;         the standard deviation of X.
> ;
> ;   MAXMOMENT:
> ;           Use this keyword to limit the number of moments:
> ;           Maxmoment = 1 Calculate only the mean.
> ;           Maxmoment = 2 Calculate the mean and variance.
> ;           Maxmoment = 3 Calculate the mean, variance, and skewness.
> ;           Maxmoment = 4 Calculate the mean, variance, skewness,
> ;                           and kurtosis (the default).
> ;
> ;   NAN:   Treat NaN elements as missing data.
> ;         (Due to problems with IEEE support on some platforms,
> ;         infinite data will be treated as missing as well. )
```

Subject: Re: moment functions with dimen keyword
Posted by [Foldy Lajos](#) on Thu, 20 Nov 2008 15:35:15 GMT
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On Thu, 20 Nov 2008, Paolo wrote:

```
> FÖLDY Lajos wrote:
>> On Thu, 20 Nov 2008, Paolo wrote:
>>
>>> I have done the same last year with moment....
>>> and I am sure many others did! (to save execution
```

>>> time, I added a keyword maxmoment, such that it
>>> does not compute the kurtosis if I only need the average).
>>
>> IDL 6.4's MOMENT has a MAXMOMENT keyword. Use the source, Luke!
>
> Correct my statement "I added" to "RSI added"
> (it's hard to remember what I did last week,
> not to mention one year ago...)
> Yes, I shamelessly modified the source code.
> But I am not distributing it, so I don't think
> I am in violation of copyright.
>

I think you have misunderstood me. I did not want to blame you with
copyright violation. With "Use the source, Luke!" I just tried to hint
that the MAXMOMENT keyword can be seen in the source, but not in the
documentation :-)

regards,
lajos

Subject: Re: moment functions with dimen keyword
Posted by [Spon](#) on Thu, 20 Nov 2008 16:32:16 GMT
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On Nov 20, 2:40 pm, Jeremy Bailin <astroco...@gmail.com> wrote:
> On Nov 20, 4:28 am, Spon <christoph.b...@gmail.com> wrote:
>
>
>
>> On Nov 20, 12:08 am, Jeremy Bailin <astroco...@gmail.com> wrote about:
>
>>> [...] making versions of the built-in MOMENT, MEAN,
>>> VARIANCE, STDDEV, SKEWNESS and KURTOSIS functions so that they accept
>>> a DIMEN= keyword that works as you'd expect.
>
>>> Or is this something that no one really needs
>>> anyway? :-)=
>
>>> -Jeremy.
>
>> Hi Jeremy,
>
>> this addition would definitely be much appreciated :-)
>
>> I think I would personally opt for giving the new functions different
>> names, just to prevent any back-compatibility issues (deep nested mean

>> () calls in procedures that have _extra keywords set and suddenly
>> don't do what you're expecting, for example.)
>
>> Looking forward to this, it would simplify things greatly for me!
>
>> Thanks,
>> Chris
>
> Chris,
>
> Actually, they are all renamed to MOMENT_D, MEAN_D, etc. Perhaps I
> might distribute a shell script that you can run somewhere in your
> path that goes and finds the built-in moment etc. functions, copies
> them over, renames them to the _D versions, and then applies my
> patches. That way I don't distribute any ITT code, but it's simple to
> distribute my functions. At least, I could do that for Unix/Mac...
> does Windows have the Bourne shell? (or patch, for that matter?) :-)=
>
> -Jeremy.
>
> -Jeremy.

Jeremy,

I use Cygwin for this sort of stuff. It does a pretty good impression of BASH, even if it is a bit of a monster in terms of size (it also supports X11 which is where, I suspect, the extra weight comes from). I've never tried to run IDL through it, though, I suspect there's a lot of headaches down that path! It'd be fine for running a script through, although possibly trying to get it to mount all the windows directories stored in IDL's !path would be fun! :-)

Regards,
Chris

Subject: Re: moment functions with dimen keyword
Posted by [Jeremy Bailin](#) on Thu, 20 Nov 2008 20:47:32 GMT
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On Nov 20, 10:22 am, Paolo <pgri...@gmail.com> wrote:
> Yes, I shamelessly modified the source code.
> But I am not distributing it, so I don't think
> I am in violation of copyright.

Modifying code on your own computer that only you use and don't distribute is definitely fine! :-)=

-Jeremy.

Subject: Re: moment functions with dimen keyword
Posted by [Jeremy Bailin](#) on Thu, 20 Nov 2008 22:27:54 GMT
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Okay, here it is. If someone with a Windows machine could give better directions for how to install it on Windows, that would be great!

<http://web.astroconst.org/jbiu/index.html#momentdimen>

-Jeremy.

Subject: Re: moment functions with dimen keyword
Posted by [Jeremy Bailin](#) on Sat, 22 Nov 2008 04:15:04 GMT
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On Nov 20, 5:27 pm, Jeremy Bailin <astroco...@gmail.com> wrote:
> Okay, here it is. If someone with a Windows machine could give better
> directions for how to install it on Windows, that would be great!
>
> <http://web.astroconst.org/jbiu/index.html#momentdimen>
>
> -Jeremy.

Important bug fix in MEAN_D... updated to version 1.01, same URL.

-Jeremy.
