Subject: Re: Using [XYZ]TICKFORMAT for dynamic formatting
Posted by lbnc on Wed, 20 May 2009 06:56:53 GMT
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On 19 May, 16:09, Paul van Delst <paul.vande...@noaa.gov> wrote:

> Does anyone know if there is any way to dynamically set the format string itself in this
> fashion? I.e. pass in the "f7.3" (or f4.1 or f5.2 etc) ?

I can't think of a way to pass it directly to lowticks. But you could
work around it by defining yourself a system variable using DEFSYSV.
That way you wouldn't have to go near COMMON blocks...

Cheers
Lasse Clausen

Subject: Re: Using [XYZ]TICKFORMAT for dynamic formatting
Posted by David Gell on Wed, 20 May 2009 12:29:07 GMT
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On May 19, 10:09 am, Paul van Delst <paul.vande...@noaa.gov> wrote:
> Hello,
>
> Given the following xtickformat function,
>
> FUNCTION lowticks, axis, index, value
> RETURN, STRING(value, FORMAT = '("!C",f7.3)')
> END
>
> I am doing something like the following to get the x-axis tick labels on every other plot
> printed on the next line:
>
> !P.MULTI = [0,n_xplots,1]
> !X.OMARGIN = [10,3]
> !X.MARGIN = [0,0]
> !Y.OMARGIN = [2,0]
> !Y.MARGIN = [4,2]
>
> FOR i = 0, n_xplots-1 DO BEGIN
> IF (i EQ 1 OR i EQ 3) THEN BEGIN
> xtickformat = 'lowticks'
> ENDIF ELSE BEGIN
> xtickformat = ''
> ENDELSE
>
> PLOT, x, y, XTICKFORMAT = xtickformat
>

> ...etc...
>
> to prevent the end-of-axis tick labels from adjacent plots overwriting each other.
>
> The problem is that I want the format in the "lowticks" function, the "f7.3", to be the
> same as those automagically chosen by IDL in the plots where the xtickformat defaults.
>
> Does anyone know if there is any way to dynamically set the format string itself in this
> fashion? I.e. pass in the "f7.3" (or f4.1 or f5.2 etc) ?
>
> cheers,
>
> paulv

I usually do something like the following when I have to pass data to
a callback routine.
Change the lowticks routine as follows:

```
   FUNCTION lowticks, axis, index, value, format=format
     common qqlowticks, sFormat
     if n_elements(sFormat) eq 0 then sFormat='("!C",f7.3)'  ;;
initialize state memory
     if keyword_set(format) ne 0 then begin
         sFormat=format
         return, 0
     endif

     RETURN, STRING( value, FORMAT = sFormat
   END
```

Then, prior to using lowticks as the value of the xtickformat keyword
argument, you set the
format string,

```
    nDummy=lowticks(format='(F7.3)'

    plot, ..., xtickformat=lowticks
```

Hope this helps.

Subject: Re: Using [XYZ]TICKFORMAT for dynamic formatting
Posted by Mark[1] on Wed, 20 May 2009 23:40:54 GMT

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On May 20, 3:09 am, Paul van Delst <paul.vande...@noaa.gov> wrote:
> The problem is that I want the format in the "lowticks" function, the "f7.3", to be the

> same as those automagically chosen by IDL in the plots where the xtickformat defaults.

You can pass a function to [XYZ]TICKFORMAT, and in this function you can do anything you want, including calling the IDL function FORMAT_AXIS_VALUES, which is the one that is called to format axis values (that figures).

Actually, not quite anything you want, because the function passed to [XYZ]TICKFORMAT function works on tick value at a time, so the number of decimal places is likely to vary. So where IDL would show...

1.0 1.5 2.0

...FORMAT_AXIS_VALUES would give

1 1.5 2

Subject: Re: Using [XYZ]TICKFORMAT for dynamic formatting
Posted by David Fanning on Thu, 21 May 2009 03:14:21 GMT
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Mark writes:

> You can pass a function to [XYZ]TICKFORMAT, and in this function you
> can do anything you want, including calling the IDL function
> FORMAT_AXIS_VALUES, which is the one that is called to format axis
> values (that figures).

How many years to you suppose you have to work with
IDL before you know the basic things about it? :-(

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.")

Subject: Re: Using [XYZ]TICKFORMAT for dynamic formatting
Posted by David Gell on Thu, 21 May 2009 12:27:55 GMT
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On May 20, 10:14 pm, David Fanning <n...@dfanning.com> wrote:
> Mark writes:
>> You can pass a function to [XYZ]TICKFORMAT, and in this function you
>> can do anything you want, including calling the IDL function
>> FORMAT_AXIS_VALUES, which is the one that is called to format axis
>> values (that figures).
>
> How many years to you suppose you have to work with
> IDL before you know the basic things about it? :-(
>
> 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.")

Let N be the number of years of IDL experience
Let M be the number of years required to know the basics of IDL

M = 2N + 1

Subject: Re: Using [XYZ]TICKFORMAT for dynamic formatting
Posted by Paul Van Delst[1] on Thu, 21 May 2009 21:14:46 GMT
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Mark wrote:
> On May 20, 3:09 am, Paul van Delst <paul.vande...@noaa.gov> wrote:
>> The problem is that I want the format in the "lowticks" function, the "f7.3", to be the
>> same as those automagically chosen by IDL in the plots where the xtickformat defaults.
>
> You can pass a function to [XYZ]TICKFORMAT, and in this function you
> can do anything you want, including calling the IDL function
> FORMAT_AXIS_VALUES, which is the one that is called to format axis
> values (that figures).
>
> Actually, not quite anything you want, because the function passed to
> [XYZ]TICKFORMAT function works on tick value at a time, so the number
> of decimal places is likely to vary. So where IDL would show...
>
> 1.0 1.5 2.0
>
> ...FORMAT_AXIS_VALUES would give
>

> 1 1.5 2

Wow. Thanks Mark. I do have to paraphrase David Fannings comment though: How the heck was

I supposed to find that?!? :o)

Once my IDL help is working again (I just got my system rebuilt to use RHE5.0 and I'm getting a boatload of "JVM terminated. Exit code=1" errors whenever I type "?" at the IDL prompt) I will investigate using the magic FORMAT_AXIS_VALUES function.

Thanks muchly. This will solve a lot of problems.

cheers,

paulv

Subject: Re: Using [XYZ]TICKFORMAT for dynamic formatting
Posted by Paul Van Delst[1] on Thu, 21 May 2009 21:38:30 GMT
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lbnc@lbnc.de wrote:
> On 19 May, 16:09, Paul van Delst <paul.vande...@noaa.gov> wrote:
>
>> Does anyone know if there is any way to dynamically set the format string itself in this
>> fashion? I.e. pass in the "f7.3" (or f4.1 or f5.2 etc) ?
>
> I can't think of a way to pass it directly to lowticks. But you could
> work around it by defining yourself a system variable using DEFSYSV.
> That way you wouldn't have to go near COMMON blocks...

Thanks Lasse I will give this a go also.

cheers,

paulv

Subject: Re: Using [XYZ]TICKFORMAT for dynamic formatting
Posted by Paul Van Delst[1] on Thu, 21 May 2009 21:40:45 GMT
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David Gell wrote:
> I usually do something like the following when I have to pass data to
> a callback routine.
> Change the lowticks routine as follows:
>

>
>   FUNCTION lowticks, axis, index, value, format=format
>   common qqlowticks, sFormat
>   if n_elements(sFormat) eq 0 then sFormat='("!C",f7.3)' ;;
> initialize state memory
>   if keyword_set(format) ne 0 then begin
>   sFormat=format
>   return, 0
>   endif
>
>   RETURN, STRING(value, FORMAT = sFormat
>   END
>
> Then, prior to using lowticks as the value of the xtickformat keyword
> argument, you set the
> format string,
>
>   nDummy=lowticks(format='(F7.3)'
>
>   plot, ..., xtickformat=lowticks
>
> Hope this helps.

Thanks David. I try to not use common blocks where possible, but I will file it away in case I can't get the other suggestions to work.

cheers,

paulv

Subject: Re: Using [XYZ]TICKFORMAT for dynamic formatting
Posted by Mark[1] on Thu, 21 May 2009 22:28:13 GMT

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On May 21, 3:14 pm, David Fanning <n...@dfanning.com> wrote:
> How many years to you suppose you have to work with
> IDL before you know the basic things about it? :-(

I saw it in the What's New document when it was introduced. That was back in the days when I used to read them.

Subject: Re: Using [XYZ]TICKFORMAT for dynamic formatting
Posted by David Gell on Fri, 22 May 2009 18:42:03 GMT

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On May 21, 4:40 pm, Paul van Delst <paul.vande...@noaa.gov> wrote:
> David Gell wrote:
>> I usually do something like the following when I have to pass data to
>> a callback routine.
>> Change the lowticks routine as follows:
>
>> FUNCTION lowticks, axis, index, value, format=format
>> common qqlowticks, sFormat
>> if n_elements(sFormat) eq 0 then sFormat='("!C",f7.3)' ;;
>> initialize state memory
>> if keyword_set(format) ne 0 then begin
>> sFormat=format
>> return, 0
>> endif
>
>> RETURN, STRING(value, FORMAT = sFormat
>> END
>
>> Then, prior to using lowticks as the value of the xtickformat keyword
>> argument, you set the
>> format string,
>
>> nDummy=lowticks(format='(F7.3)'
>
>> plot, ..., xtickformat=lowticks
>
>> Hope this helps.
>
> Thanks David. I try to not use common blocks where possible, but I will file it away in
> case I can't get the other suggestions to work.
>
> cheers,
>
> paulv

I also avoid common blocks for communications between routines, but I
often use them to hold state information between invocations of a
routine. Think of it as half-ass*d object programming.
