Subject: Re: plots?
Posted by David Fanning on Tue, 20 Aug 2002 04:03:11 GMT
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helen (bin_zheng_99@yahoo.com) writes:

> I have a problem about using plots. I want to use two plots for two
> different data sets at the same time. If I just use one plots for one
> data set, there is no problem. But when I use two, it doesn't work. It
> seems the two plots interrupt each other. I want to know why?

I really can't tell what you are trying to do, but if you
put a couple of plots into your code so you have a good
reference point, it appears you are at least plotting
into both windows. I've never seen the CONTINUE keyword
before, and can't really tell what it does (or is suppose
to do) in this program.

```
pro testPlots
arrayT = fltarr(11)
arrayX = fltarr(11)
arrayY = fltarr(11)
window, 1
plot,[0,10],[-10,10], /NoData
x1 = !X & y1 = !Y & p1 = !P
window,2
plot,[0,10],[-5,5], /NoData
x2 = !X & y2 = !Y & p2 = !P
for I=0, 10 Do begin
    arrayY[I] = cos(I+1)
    arrayX[I] = sin(I+1)
    arrayT[I] = I
 wset, 1
 !X = x1 & !Y = x1 & !P = p1
  plots,arrayT[I], arrayX[I], /continue
 wset, 2
 !X = x2 & !Y = y2 & !P = p2
  plots,arrayT[I], arrayY[I], /continue

endfor
end
```

Does this give you any clues!?

Are you trying to do this?

```
   arrayT = fltarr(11)
   arrayX = Sin(fltarr(11) + 1)
```

```
  arrayY = Cos(fltarr(11) + 1)
  Window,3, arrayT, arrayX
  Window, 4, arrayT, arrayY
```

Cheers,

David
--
David W. Fanning, Ph.D.
Fanning Software Consulting, Inc.
Phone: 970-221-0438, E-mail: david@dfanning.com
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: plots?
Posted by Don J Lindler on Tue, 20 Aug 2002 11:51:01 GMT
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```
> I have a problem about using plots. I want to use two plots for two
> different data sets at the same time. If I just use one plots for one
> data set, there is no problem. But when I use two, it doesn't work. It
> seems the two plots interrupt each other. I want to know why?
>
> Thanks very much for any kind of help!
>
> I attach my simple program below:
>
> ;*****************
> pro testPlots
> arrayT = fltarr(11)
> arrayX = fltarr(11)
> arrayY = fltarr(11)
> window, 1
> x1 = !X & y1 = !Y & p1 = !P
> window,2
> x2 = !X & y2 = !Y & p2 = !P
> for i=0, 10 Do begin
>    arrayY[i] = cos(i+1)
>    arrayX[i] = sin(i+1)
>    arrayT[i] = i
> wset, 1
> !X = x1 & !Y = x1 & !P = p1
> plots,arrayT[i], arrayX[i], /continue
> wset, 2
> !X = x2 & !Y = y2 & !P = p2
> plots,arrayT[i], arrayY[i], /continue
>
```

> endfor
>
> end
>

The /continue is telling the routine to start plotting
from where the last plots was performed.
When you are changing wingows the routine is continuing
the plot from the point where the other window left off.
If you want to plot in this manner, I would suggest letting
your program keep track of where you left off.

```
for i=0, 10 Do begin
   arrayY[i] = cos(i+1)
   arrayX[i] = sin(i+1)
   arrayT[i] = i
   if i gt 0 then begin
       wset, 1
        !X = x1 & !Y = x1 & !P = p1
        plots, arrayT[[i-1,i]], arrayX[[i-1,i]]
        wset, 2
        !X = x2 & !Y = y2 & !P = p2
        plots, arrayT[[i-1,i]], arrayY[[i-1,i]]
   end
endfor
```

Don

Subject: Re: plots?
Posted by Robert Stockwell on Tue, 20 Aug 2002 13:12:06 GMT
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helen wrote:
> Hello, All,
>
> I have a problem about using plots. I want to use two plots for two
> different data sets at the same time. If I just use one plots for one
> data set, there is no problem. But when I use two, it doesn't work. It
> seems the two plots interrupt each other. I want to know why?
>
> Thanks very much for any kind of help!
>
> I attach my simple program below:
>
> ;*****************

```
>  pro testPlots
>  arrayT = fltarr(11)
>  arrayX = fltarr(11)
>  arrayY = fltarr(11)
>  window, 1
>  x1 = !X & y1 = !Y & p1 = !P
>  window,2
>  x2 = !X & y2 = !Y & p2 = !P
>  for i=0, 10 Do begin
>      arrayY[i] = cos(i+1)
>      arrayX[i] = sin(i+1)
>      arrayT[i] = i
>   wset, 1
>   !X = x1 & !Y = x1 & !P = p1
>    plots,arrayT[i], arrayX[i], /continue
>   wset, 2
>   !X = x2 & !Y = y2 & !P = p2
>    plots,arrayT[i], arrayY[i], /continue
>
>  endfor
>
>  end
>
>  ;*****************************
```

How about:

```
arrayT = fltarr(11)
arrayX = fltarr(11)
arrayY = fltarr(11)

window, 1
plot,[0,10],[-10,10], /NoData,title='plot 1'
x1 = !X & y1 = !Y & p1 = !P

window,0
plot,[0,10],[-5,5], /NoData,title='plot 2'
x2 = !X & y2 = !Y & p2 = !P


for I=1, 10 Do begin
    arrayY[I] = cos(I+1)
    arrayX[I] = sin(I+1)
    arrayT[I] = I
endfor
for I=0, 10-1 Do begin
 wset, 1
```

```
  plots,arrayT[I], arrayX[I]
  plots,arrayT[I+1], arrayX[I+1], /continue

 wset, 0
  plots,arrayT[I], arrayY[I]
  plots,arrayT[I+1], arrayY[I+1], /continue

endfor
end
```

Cheers,
bob

Subject: Re: plots?
Posted by bin_zheng_99 on Tue, 20 Aug 2002 13:26:02 GMT
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David Fanning <david@dfanning.com> wrote in message
news:<MPG.17cb6d6733fc1915989969@news.frii.com>...
> helen (bin_zheng_99@yahoo.com) writes:
>
>> I have a problem about using plots. I want to use two plots for two
>> different data sets at the same time. If I just use one plots for one
>> data set, there is no problem. But when I use two, it doesn't work. It
>> seems the two plots interrupt each other. I want to know why?
>
> I really can't tell what you are trying to do, but if you
> put a couple of plots into your code so you have a good
> reference point, it appears you are at least plotting
> into both windows. I've never seen the CONTINUE keyword
> before, and can't really tell what it does (or is suppose
> to do) in this program.
>

```
> pro testPlots
> arrayT = fltarr(11)
> arrayX = fltarr(11)
> arrayY = fltarr(11)
> window, 1
> plot,[0,10],[-10,10], /NoData
> x1 = !X & y1 = !Y & p1 = !P
> window,2
> plot,[0,10],[-5,5], /NoData
> x2 = !X & y2 = !Y & p2 = !P
> for I=0, 10 Do begin
>     arrayY[I] = cos(I+1)
>     arrayX[I] = sin(I+1)
```

> arrayT[I] = I
> wset, 1
> !X = x1 & !Y = x1 & !P = p1
> plots,arrayT[I], arrayX[I], /continue
> wset, 2
> !X = x2 & !Y = y2 & !P = p2
> plots,arrayT[I], arrayY[I], /continue
>
> endfor
> end
>
> Does this give you any clues!?
>
> Are you trying to do this?
>
> arrayT = fltarr(11)
> arrayX = Sin(fltarr(11) + 1)
> arrayY = Cos(fltarr(11) + 1)
> Window,3, arrayT, arrayX
> Window, 4, arrayT, arrayY
>
> Cheers,
>
> David

Hello, David,

Thanks David for your help. But I still have not solved my problem. My problem is whether I can plot two different data in two windows at the same time? Because I want to track a target's movement and display its x (arrayX) and y (arrayY) position against the time (arrayT) at the real time. So that I can see the moving from the plots in these two windows. So, I write a simple program to test if I can plot two different data (arrayX against arrayT, arrayX against arrayT) at the same time and still get correct result? Is there a way to do this?

Thanks very much for any suggestion!

Subject: Re: plots?
Posted by R.Bauer on Tue, 20 Aug 2002 14:31:56 GMT
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helen wrote:

> David Fanning <david@dfanning.com> wrote in message
> news:<MPG.17cb6d6733fc1915989969@news.frii.com>...
>> helen (bin_zheng_99@yahoo.com) writes:

>>
>>> I have a problem about using plots. I want to use two plots for two
>>> different data sets at the same time. If I just use one plots for one
>>> data set, there is no problem. But when I use two, it doesn't work. It
>>> seems the two plots interrupt each other. I want to know why?
>>
>> I really can't tell what you are trying to do, but if you
>> put a couple of plots into your code so you have a good
>> reference point, it appears you are at least plotting
>> into both windows. I've never seen the CONTINUE keyword
>> before, and can't really tell what it does (or is suppose
>> to do) in this program.
>>
>> pro testPlots
>> arrayT = fltarr(11)
>> arrayX = fltarr(11)
>> arrayY = fltarr(11)
>> window, 1
>> plot,[0,10],[-10,10], /NoData
>> x1 = !X & y1 = !Y & p1 = !P
>> window,2
>> plot,[0,10],[-5,5], /NoData
>> x2 = !X & y2 = !Y & p2 = !P
>> for I=0, 10 Do begin
>> arrayY[I] = cos(I+1)
>> arrayX[I] = sin(I+1)
>> arrayT[I] = I
>> wset, 1
>> !X = x1 & !Y = x1 & !P = p1
>> plots,arrayT[I], arrayX[I], /continue
>> wset, 2
>> !X = x2 & !Y = y2 & !P = p2
>> plots,arrayT[I], arrayY[I], /continue
>>
>> endfor
>> end
>>
>> Does this give you any clues!?
>>
>> Are you trying to do this?
>>
>> arrayT = fltarr(11)
>> arrayX = Sin(fltarr(11) + 1)
>> arrayY = Cos(fltarr(11) + 1)
>> Window,3, arrayT, arrayX
>> Window, 4, arrayT, arrayY
>>
>> Cheers,

>>
>> David
>
> Hello, David,
>
> Thanks David for your help. But I still have not solved my problem. My
> problem is whether I can plot two different data in two windows at the
> same time? Because I want to track a target's movement and display its
> x (arrayX) and y (arrayY) position against the time (arrayT) at the
> real time. So that I can see the moving from the plots in these two
> windows. So, I write a simple program to test if I can plot two
> different data (arrayX against arrayT, arrayX against arrayT) at the
> same time and still get correct result? Is there a way to do this?
>
> Thanks very much for any suggestion!

Dear Helen,

this a normal common problem and may be I can help.
idl saves always only the last state of coordination vars of a window
to several system variables. So there is a transformation matrix neccesary
for each window you create depending on sizes, type and range. The routines
savesysvar and restsysvar are doing this for you.

After "plot" in first window or in your example creation of the window you
have to store the system vars by p1=savesysvar() and for the second window
plot into p2.
If you now actualize first window you have to restore their belonging
system variables by restsysvar,p1 and if you switch to plot on the other
window you have to set restsysvar,p2

 http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_source/idl _html/dbase/download/restsysvar.tar.gz
 http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_source/idl _html/dbase/download/savesysvar.tar.gz

or as idl 5.5 binary
 http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_source/idl _html/dbase/download/restsysvar.sav
 http://www.fz-juelich.de/icg/icg1/idl_icglib/idl_source/idl_ html/dbase/download/savesysvar.sav

(Remember a idl compiled file with the extension sav is automaticly loaded
the first time it is used. This is the same behaviour as for idl sources
(.pro). They run on each idl platform with the same idl version)

For further routines and licensing please have a look at
 http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_lib_intro. html

best regards

Reimar

```
pro test
arrayT = fltarr(11)
arrayX = fltarr(11)
arrayY = fltarr(11)
window, 1
;x1 = !X & y1 = !Y & p1 = !P
p1=savesysvar()
window,2
;x2 = !X & y2 = !Y & p2 = !P
p2=savesysvar()
for i=0, 10 Do begin
    arrayY[i] = cos(i+1)
    arrayX[i] = sin(i+1)
    arrayT[i] = i
        wset, 1
restsysvar,p1
;       !X = x1 & !Y = x1 & !P = p1
              plots,arrayT[i], arrayX[i], /continue
        wset, 2
restsysvar,p2
;       !X = x2 & !Y = y2 & !P = p2
              plots,arrayT[i], arrayY[i], /continue

endfor

end
```

--
Forschungszentrum Juelich
email: R.Bauer@fz-juelich.de
http://www.fz-juelich.de/icg/icg-i/
 ========== ======
a IDL library at ForschungsZentrum Juelich
 http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_lib_intro. html

---

Subject: Re: plots?
Posted by David Fanning on Tue, 20 Aug 2002 14:37:43 GMT
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helen (bin_zheng_99@yahoo.com) writes:

> Thanks David for your help. But I still have not solved my problem. My

> problem is whether I can plot two different data in two windows at the
> same time? Because I want to track a target's movement and display its
> x (arrayX) and y (arrayY) position against the time (arrayT) at the
> real time. So that I can see the moving from the plots in these two
> windows. So, I write a simple program to test if I can plot two
> different data (arrayX against arrayT, arrayX against arrayT) at the
> same time and still get correct result? Is there a way to do this?

I think I would drop the CONTINUE keyword and just draw
from the last point to this point:

```
pro testPlots
arrayT = fltarr(11)
arrayX = fltarr(11)
arrayY = fltarr(11)
window, 1
plot,[0,10],[-10,10], /NoData
x1 = !X & y1 = !Y & p1 = !P
window,2
plot,[0,10],[-10,10], /NoData
x2 = !X & y2 = !Y & p2 = !P
for I=1, 10 Do begin
    arrayY[I] = cos(I+1)
    arrayX[I] = sin(I+1)
    arrayT[I] = I
   wset, 1
   !X = x1 & !Y = y1 & !P = p1
      plots,[arrayT[i-1], arrayT[I]], $
            [arrayX[i-1], arrayX[I]]
   wset, 2
   !X = x2 & !Y = y2 & !P = p2
   print, [arrayY[i-1], arrayY[I]]
      plots,[arrayT[i-1], arrayT[I]], $
            [arrayY[i-1], arrayY[I]]

endfor
end
```

This works perfectly, as far as I can tell.

Cheers,

David

--
David W. Fanning, Ph.D.
Fanning Software Consulting, Inc.
Phone: 970-221-0438, E-mail: david@dfanning.com

Subject: Re: plots?
Posted by MKatz843 on Tue, 20 Aug 2002 18:30:06 GMT
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Helen, IDL is more elegant than you suppose.

I would suggest using arrays rather than FOR loops.
(David meant findgen() rather then fltarr(), I assume.)
With the plots outside of a loop, you won't need to use the /continue
keyword.

Whenever I need to set up a plot and then draw the plot in two steps,
I use the /data keyword. Then you don't need to hassle with !X, !Y,
and the like. This is done in testPlots2 below.

An even more compact version is in testPlots3 below. This may or may
not work for you, but I combine the creation of the plot and the
actual plotting into one step using plot rather than plot & plots.
They keywords to plot let you choose the domain and range (x and y)
yourself, and the ystyle=1 setting allows you to force the use of
[-5,5] rather than the automatically-selected [-6,6].

```
pro testPlots2
 window, 1
 plot,[0,10],[-10,10], /NoData
 window,2
 plot,[0,10],[-5,5], /NoData

 I = findgen(11)
 arrayY = cos(I+1)
 arrayX = sin(I+1)
 arrayT = I

 wset, 1
 plots, arrayT, arrayX, /data
 wset, 2
 plots, arrayT, arrayY, /data
end



pro testPlots3
 I = findgen(11)
 arrayY = cos(I+1)
```

```
 arrayX = sin(I+1)
 arrayT = I

 window, 1
 plot, arrayT, arrayX, /data, xrange=[0,10], yrange=[-10,10]
 window, 2
 plot, arrayT, arrayY, /data, xrange=[0,10], yrange=[-5,5], ystyle=1
end
```

I hope this points you in the right direction,

M. Katz
