On May 19, 12:32 pm, sarah <sarahwiddeco...@yahoo.com> wrote:
> On May 12, 9:31 pm, David Fanning <n...@dfanning.com> wrote:
>
>
>
>> sarah writes:
>>> x=make_array(1024)
>>> sigma=15
>>> mu =15
>>> const=1/(sigma*sqrt(2*!pi))
>>> for i = 0,1024 do x[i]= array[0,*]
>>> f= const*(EXP(-1.0*(x - mu)^2/(2*sigma^2)))
>
>>> z = convol(array,array2,/center)
>>> z = z*2
>>> print,f
>>> end
>
>>> here is the message I get:% Out of range subscript encountered: X.
>>> % Execution halted at: CONV1   29
>>>   /Users/Dave/Desktop/conv1.pro
>>> % $MAIN$
>
>>> I don't see why this doesn't work? I am very frustrated
>
>> The problem is on this line:
>
>>   for I = 0,1024 do x[I]= array[0,*]
>
>> 0 to 1024 is 1025 numbers. (Count them if you
>> don't believe me.) But X is only big enough to
>> hold 1024 numbers, so you are, uh, going out
>> of its subscript range, as the error message
>> suggests.
>
>> But this line of code is completely unnecessary.
>> Simply typing this is enough:
>
>>   x = Reform(array[0,*])
>
>> 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.")
>
> Thank you for your help! This did indeed solve my problem.
>
> I have developed a new problem in my convolution. It seesm i need to
> convolve with a kernel.
> I can only convolve two arrays and do not seem to be able to
> incorporate the gaussian kernel I need into the convolution.
>
> Is this a three way convolution? I do not know how to do this. I am
> trying to convolve 2 datasets with a kernel.
> I have tried the code below:
>
> pro conv_nokern
>
> Openr, lun, 'model.dat', /Get_Lun
>
> Point_Lun, lun, 0
> ReadF, lun, adim, bdim, num_columns
> spec = fltarr(2, 1024)
> readf,lun,spec
> a = spec(0,*)
> b = spec(1,*)
> Free_Lun, lun
> window,2,xsize=500,ysize=500,retain=2
> plot,a,b,yrange=[0,1],xrange=[4265,4200]
>
> openr,lun,'aataunorm.dat',/get_lun
> Point_Lun, lun, 1
> ReadF, lun, cdim, ddim, num_columns
> data = fltarr(2, 1024)
> readf,lun,data
> c = data(0,*)
> d = data(1,*)
> window,4,xsize=500,ysize=500,retain=2
> plot,c,d,yrange=[0,1],xrange=[4265,4200]
> print,data
>
> fconv=convol(b,d,/edge_truncate)
> ;define convoution function
> print,fconv
>
> openw,1,'data.dat'
> printf,1,a,fconv

```
>
> fconv2=fconv/92.4259
> window,6,xsize=500,ysize=500,retain=2
> plot,a,fconv2,yrange=[0,1],xrange=[4265,4200]
> close,1
>
> end
```

Say a and b are your vectors containing data, and you want to convolve
with a gaussian of width sigma. Add the following code:

```
sigma=31. ; whatever you want- make it odd though

ker=findgen(ker)-(ker-1)/2.
ker=exp(-ker^2/(2.*sigma^2)) ; turn it into a gaussian
ker/=total(ker) ; and normalize it

;convolve a and b with ker

aconvol=convol(a,ker,/edge_truncate)
bconvol=convol(b,ker,/edge_truncate)
```

hope this helps

chris