Subject: Re: Help me aviod a FOR loop!?!?
Posted by Paul Van Delst[1] on Tue, 23 Apr 2002 17:06:27 GMT
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Sean Davis wrote:
>
> I don't know if this is possible. I have 4 coeffecients,
> a,c,d,cd, that are each 3191-long arrays, and I would like to construct
> 3191, waveforms (of length 128) from these coefeccients.
>
> Here's what I'm trying to do:
>
> x = FINDGEN(128)
> yfit = FLTARR(128,3191)
>
> yfit = (a/cd)*(exp(-1.*c*x)-exp(-1.*d*x))
>
> In the end, I would like yfit to be an array of (128,3191) or (3191,128).
>
> I can't figure out how to do this without using a FOR loop. Is there any
> hope for doing this without a FOR loop?

Using matrix multiplication maybe?

paulv

--
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Subject: Re: Help me aviod a FOR loop!?!?
Posted by gutmann on Wed, 24 Apr 2002 03:23:04 GMT
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something like

tmp=intarr(1,128)
tmp(*,*)=1

yfit = (tmp##(a/cd))*(exp(-1.*c##x)-exp(-1.*d##x))

Now I'll step aside and let one of the gurus here tell it right

Subject: Re: Help me aviod a FOR loop!?!?
Posted by Malcolm Walters on Wed, 24 Apr 2002 09:01:31 GMT
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"Sean Davis" <sdavis@nis.lanl.gov> wrote in message
news:Pine.LNX.4.33.0204231006000.1744-100000@vglass.lanl.gov ...
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I think this calls for use of rebin and matrix multiplication.
The rebin is required to turn 'a' and 'cd' into arrays the same shape as the
result of the matrix multiplications.

so...
```
a=randomn(systime(/seconds),3191)
c=randomu(systime(/seconds),3191)
d=randomu(systime(/seconds),3191)
cd=randomn(systime(/seconds),3191)
x=findgen(128)
yfit = (rebin(a,3191,128,/sample)/rebin(cd,3191,128,/sample))*(
exp(-c#x)-exp(-d#x) )
```

Malcolm
>
> THANKS!!!!!!
>
> Sean
>
>
>

Subject: Re: Help me aviod a FOR loop!?!?
Posted by James Tappin on Thu, 25 Apr 2002 14:47:28 GMT
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Sean Davis wrote:

> I don't know if this is possible. I have 4 coeffecients,
> a,c,d,cd, that are each 3191-long arrays, and I would like to construct
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>

Try this:

```
x=findgen(1,128)
d1=intarr[128]
d2=intarr[3191]
yfit= (a/c*d)[*,d1]*(exp(-c[*,d1]*x[d2,*])-exp(-d[*,d1]*x[d2,*])
```

You could use explicit intarr calls for the dummy indices, but it take more space.

James

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