
Subject: Re: function of two variables

Posted by [andy](#) on Fri, 18 Mar 1994 18:48:05 GMT

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In article <CMtu54.5o@ireq.hydro.qc.ca>, brooker@toka.ireq-ccfm.hydro.qc.ca writes:

> Hello from Canada!!

>

> I have the following IDL question:

>

> Assume I have the functions $Y=2.*X + 3.$ and I want to plot Y vs X over the

> range [0,10]

>

> I could code this as

>

> $X=\text{findgen}(101)/100.*10.$

> $Y=2.*X + 3.$

> plot,x,y

>

> Very nice!! Only array operations. NO LOOPING!!!!!! Very FAST!!!!!!

>

> But what if now I had $Z=2.*X + 3.*Y$ and I want to plot Z as X and Y both

> range from 0 to 10. A way to code this is

>

> $X=\text{findgen}(101)/100.*10.$

> $Y=X$

> $\text{num_y}=\text{n_elements}(Y)$

> $\text{num_x}=\text{n_elements}(X)$

> $z=\text{fltarr}(\text{num_x},\text{num_y})$

> for $j=0,\text{num_y}-1$ do begin

> $z(*,j)=2.*X + 3.*Y(j)$

> endfor

> $\text{surface},Z,X,Y$

>

> Very inefficient because of the loop!! Very slow!!

>

> Is there anyway to do this more efficiently?

>

> Thanks,

> Peter Brooker

> brooker@toka.ireq-ccfm.hydro.qc.ca

Peter,

I would recommend trying...

```
z = fltarr(num_x,num_y)+replicate(1,num_y)#(3.*y)+(2.*X)#replicate(1,num_x)
```

I didn't find your example slow on a SUN Sparc 2, but hopefully this suggestion will be faster on your system.

Andy

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