Subject: Re: Help: how to do ?
Posted by eddie haskell on Tue, 04 May 1999 07:00:00 GMT
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"Robert S. Hill" wrote:
> I added the following method to Pavel's test program:
>
> a1=findgen(1,3)
> a2=findgen(n,3)
> a3 = make_array(n,val=1) # a1
> a4 = a2 + a3

For what it's worth, I find that, at least on my system, replicate
works about 10-20% faster than make_array, as in the following:

a1 = findgen(1,3)
a2 = findgen(n,3)
a3 = a2 + (replicate(1,n) # a1)

Cheers,
eddie

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----- ---- --- ---- --- --- --- --- -- -- -- - - - -

Subject: Re: Help: how to do ?
Posted by Pavel Romashkin on Tue, 04 May 1999 07:00:00 GMT
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Tri VU KHAC wrote:

> Hi again,
> I post this message, but I think I have a better solution ;-)
> Just:
> A[*, 0] = A1[*, 0] + A2[0]
> A[*, 1] = A1[*, 1] + A2[1]
> A[*, 2] = A1[*, 2] + A2[2]
> Why did I post this message ? Because it does not look very nice to
> write.

You could even go without A1 at all, like

A[*, 0] = A2[0] + 0.0
A[*, 1] = A2[1] + 1.0
A[*, 2] = A2[2] + 2.0

if you weren't going to use this in a more general way than you describe. Eliminate the first line as it does insignificant changes, and the code will be even nicer to write. You may find this way inconvenient if you go to more than 500 rows though, as the code won't fit on the screen. Why did I post this message? Because I think that previous two solutions looked nicer to write.
Cheers,
Pavel

Subject: Re: Help: how to do ?
Posted by VU KHAC Tri on Tue, 04 May 1999 07:00:00 GMT
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Hi again,
I post this message, but I think I have a better solution ;-)
Just:
A[*, 0] = A1[*, 0] + A2[0]
A[*, 1] = A1[*, 1] + A2[1]
A[*, 2] = A1[*, 2] + A2[2]
Why did I post this message ? Because it does not look very nice to write.
Best regards,
Tri.

> Hi folks,
>
> Having 2 arrays:
> + 3x1 : A1 = findgen(1, 3)
> + 3xN: A2= findgen(N, 3)
>
> No I need to do sth like:
>
> for i=1, N do A[i,*] = A2[i,*] + A1
>
> How to avoid FOR-DO here ?
>
> Thanks for your help.
> Regards,
> Tri.

Subject: Re: Help: how to do ?
Posted by Robert S. Hill on Tue, 04 May 1999 07:00:00 GMT
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On Tue, 4 May 1999, Pavel Romashkin wrote:

> Hi Tri,
> Now I tested it better. Try the following:
>

I added the following method to Pavel's test program:

```
start=systime(1)
a1=findgen(1,3)
a2=findgen(n,3)
a3 = make_array(n,val=1) # a1
a4 = a2 + a3
print, systime(1) - start
print, a4
```

I can't remember where I ran across this trick of using a matrix multiply operation to replicate rows or columns. In any case, it's about the same speed as Pavel's method (using the reform function) for small values of N, but on my system takes about 0.6 the time of Pavel's method for n=100000 or more. How it depends on the Y dimension, I haven't checked.

Bob Hill

--
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Raytheon ITSS / Code 681, NASA/GSFC, Greenbelt, MD 20771

Subject: Re: Help: how to do ?
Posted by Pavel Romashkin on Tue, 04 May 1999 07:00:00 GMT
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Hi Tri,
Now I tested it better. Try the following:

```
pro test, N

start=systime(1)
a1=findgen(1,3)
a2=findgen(N, 3)
a3=a2
for i=0,N-1 do a3[i, *] = a2[i, *]+a1
print, systime(1) - start
```

```
print, a3

start=systime(1)
a1 = fix(findgen(N*3)/N)
a2 = findgen(N*3)
a3 = reform((a2+a1), N, 3)
print, systime(1) - start
print, a3
end
```

Still is faster by a factor of 10.
Cheers,
Pavel

Tri VU KHAC wrote:

> Having 2 arrays:
> + 3x1 : A1 = findgen(1, 3)
> + 3xN: A2= findgen(N, 3)
>
> No I need to do sth like:
>
> for i=1, N do A[i,*] = A2[i,*] + A1
>
> How to avoid FOR-DO here ?

Subject: Re: Help: how to do ?
Posted by Pavel Romashkin on Tue, 04 May 1999 07:00:00 GMT
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Tri,
I was wrong. I did not replicate A1 into all columns and filled it with zeros instead. The result you need can not be obtained this way. I am sorry.
Cheers,
Pavel

Pavel Romashkin wrote:

> a1 = [[a1], fltarr(n-1, 3)]
> a = a2+a1

Subject: Re: Help: how to do ?
Posted by Pavel Romashkin on Tue, 04 May 1999 07:00:00 GMT

Tri VU KHAC wrote:

> Hi folks,
>
> Having 2 arrays:
> + 3x1 : A1 = findgen(1, 3)
> + 3xN: A2= findgen(N, 3)
>
> No I need to do sth like:
>
> for i=1, N do A[i,*] = A2[i,*] + A1
>
> How to avoid FOR-DO here ?

a1 = [[a1], fltarr(n-1, 3)]
a = a2+a1

I clocked the (100x1000) array. This method is 10 times faster than a loop.
Cheers,
Pavel