
Subject: Re: Cumulative max() in *arbitrary* dimension?
Posted by [Lajos Foldy](#) on Thu, 08 Mar 2012 21:15:19 GMT
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On Mar 8, 7:33 pm, JDS <jdtsmith.nos...@yahoo.com> wrote:

```
>  
> IDL> a=byte(randomu(sd,300,400,3000)*256)  
> IDL> t=systime(1) & b=max(a,DIMENSION=3) & print,systime(1)-t  
> IDL> t=systime(1) & b2=a[*,*,0] & for i=1,3000-1 do b2>=a[*,*,i] & print,systime(1)-t  
> IDL> print,array_equal(b,b2)  
>  
> I can only presume the built-in MAX has some design limitations for final dimension looping. I  
presume this all works the same way for MIN, BTW.
```

b=max(a,DIMENSION=3) is equivalent to

```
b=a[*,*,0]  
for j1=0,299 do begin  
  for j2=0,399 do begin  
    b[j1,j2]=a[j1,j2,0]  
    for j3=1,2999 do b[j1,j2]>=a[j1,j2,j3]  
  endfor  
endfor
```

Your solution is equivalent to

```
b2=a[*,*,0]  
for j3=1,2999 do begin  
  for j2=0,399 do begin  
    for j1=0,299 do b2[j1,j2]>=a[j1,j2,j3]  
  endfor  
endfor
```

The big difference comes from the memory access pattern.

regards,
Lajos
