
Subject: Re: Max value vector

Posted by [Evan Fishbein](#) on Sun, 23 May 1999 07:00:00 GMT

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Tom,

I have a routine that finds the max and min over the first index of a multidimension array using a for loop as you described. You need to make sure that the for loop variable is a long by initializing it to long

The code below takes `x1(n1,n2...nn)` and returns `lu(n2..nn,2)` where `lu(...,0)` are the lowerbounds and `(lu(...,1)` are the upperbounds

```
function lubound, x1, ignore=ignore, all=all
;
; calculates the lubounds of elements of x1 have the same 2nd, 3rd...nth
; indices. i.e. bounds by contracting over the first index.
;
if n_elements(all) ne 1 then all=0
if all eq 0 then begin
    x=reform(x1)
end else begin
    x=reform(x1, n_elements(x1))
end
sx=size(x)

if n_elements(ignore) eq 0 then begin
    if sx(0) le 1 then begin
        lub= [min(x), max(x)]
    end else begin
        nx=sx(2+sx(0))/sx(1)
        lub=make_array(nx, 2, type=sx(sx(0)+1) )
        x=reform(x, sx(1), nx)
        for i=0!, nx-1 do begin
            lub(i,*)=[min(x(*,i)), max(x(*,i)) ]
        end
        lub=reform(lub, [sx(2:sx(0)),2] )
    end
end else begin
    if sx(0) le 1 then begin
        ips=where(x ne ignore)
        if ips(0) ge 0 then begin
            lub= [min(x(ips)), max(x(ips))]
        end else begin
            lub=replicate(ignore,2)
        end
    end else begin
```

```

nx=sx(2+sx(0))/sx(1)
lub=make_array(nx, 2, type=sx(sx(0)+1) )
x=reform(x, sx(1), nx)
for i=0!, nx-1 do begin
    ips=where(x(*,i) ne ignore)
    if ips(0) ge 0 then begin
        lub(i,*)= [min(x(ips,i)), max(x(ips,i))]
    end else begin
        lub(i,*)=replicate(ignore,2)
    end
end
lub=reform(lub, [sx(2:sx(0)), 2] )
return, lub
end

```

"Thomas C. Stubbings" wrote:

```

> What I would need is something like the MATLAB command max(i) where i is an
> array(n,m) and max(i) returns a vector containing the maximum value of each
> column. The IDL max command only returns a scalar containing the absolute
> maximum of the array.
>
> I even tried a big loop running through each column to find the max of each,
> but IDL doesnt accept loops with 64000 iterations
>
> What alternatives do I have?
>
> Thomas

```
