
Subject: Re: Can I do this without using loops?

Posted by [rivers](#) on Wed, 05 Jun 1996 07:00:00 GMT

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In article <31B59C2D.C@dundee.ac.uk>, Peter Clinch <p.j.clinch@dundee.ac.uk> writes:

> Can't quite see how, but I have a feeling there's a Better Way...

>

> I have a couple of images, same size, and I need to compare the two and

> take a result which has the highest value from either of the inputs. Ay

> the mo. I'm just using loops through all the pixels using an if greater

> than comparison, and it takes ages... :(

That is an easy one, just use the > operator.

```
IDL> a = [[1,2,3],[1,2,3],[1,2,3]]
```

```
IDL> b = [[3,2,1],[3,2,1],[3,2,1]]
```

```
IDL> print, a
```

```
1 2 3
```

```
1 2 3
```

```
1 2 3
```

```
IDL> print, b
```

```
3 2 1
```

```
3 2 1
```

```
3 2 1
```

```
IDL> print, a>b
```

```
3 2 3
```

```
3 2 3
```

```
3 2 3
```

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Subject: Re: Can I do this without using loops?

Posted by [peter](#) on Wed, 05 Jun 1996 07:00:00 GMT

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Peter Clinch (p.j.clinch@dundee.ac.uk) wrote:

: Can't quite see how, but I have a feeling there's a Better Way...

: I have a couple of images, same size, and I need to compare the two and

: take a result which has the highest value from either of the inputs. Ay

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: than comparison, and it takes ages... :(

result = a > b

will place the greater of a and b in result, on a pixel-by-pixel basis.

Even if the > function didn't exist, the following would do it without loops

```
test = a gt b
result = a*test + b*(1-test)
```

Peter

Subject: Re: Can I do this without using loops?
Posted by [Bruce E Thomason](#) on Thu, 06 Jun 1996 07:00:00 GMT
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Re: Finding larger of pixel set.

try:

```
x = image_1
y = image_2
```

```
bigger_of_x_y = x > y
```

or

```
bigger_of_x_y = y > x
```

This seems to work in Wave - not sure about IDL.

Cheers - Bruce

--

```

                                {}
                        /~~~~~\.....:
                    {(o)-(o)}
-----OOo---( )---oOO-----
Dynamic System Solutions  Real-Time System Developers
331 Franklin St.         Specializing In Test & Measurement &
Columbus, IN 47201       Scientific Visualization
```

Subject: Re: Can I do this without using loops?

Posted by [bowman](#) on Sat, 08 Jun 1996 07:00:00 GMT

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In article <4pcm41\$64r@vixen.cso.uiuc.edu>, santanu@glibm5.cen.uiuc.edu (S Bhattacharyya) wrote:

> Regarding loops, I am kinda in the same boat. My advisor
> keeps complaining about how slow our code runs...We don't seem to
> know any better around here :-)
>
> Q1) I have a generic array foo(x,y). I'd like to divide each column
> by its max. Can this be done without looping ?
>
> Q2) I have a generic array foo=fltarr(a,b). I'd like to copy findgen(b)
> into every column. Any way of doing this without loops ?

It is always the *innermost* loop that you need to worry about. Of course you want to avoid taking large strides in memory in the innermost loop, as well as using array syntax. A2 (below) should run very fast. I'm using the first quadrant convention for subscripts (i.e., (i,j) corresponds to (x,y), so to me a column is the second subscript. You may need to reverse that.

A1)

```
FOR i = 0, ni-1 DO foo(i,*) = foo(i,*)/MAX(foo(i,*))
```

A2)

```
FOR j = 0, nj-1 DO foo(*,j) = FLOAT(j)
```

Regards, Ken Bowman

--

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Subject: Re: Can I do this without using loops?

Posted by [santanu](#) on Sat, 08 Jun 1996 07:00:00 GMT

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Regarding loops, I am kinda in the same boat. My advisor keeps complaining about how slow our code runs...We don't seem to know any better around here :-)

Q1) I have a generic array `foo(x,y)`. I'd like to divide each column by its max. Can this be done without looping ?

Q2) I have a generic array `foo=fltarr(a,b)`. I'd like to copy `findgen(b)` into every column. Any way of doing this without loops ?

Any pointers greatly appreciated.

Regards,
Santanu
