Subject: Re: Can I do this without using loops?
Posted by rivers on Wed, 05 Jun 1996 07:00:00 GMT
View Forum Message <> Reply to Message

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
```


Mark Rivers (312) 702-2279 (office)
CARS (312) 702-9951 (secretary)
Univ. of Chicago (312) 702-5454 (FAX)
5640 S. Ellis Ave. (708) 922-0499 (home)
Chicago, IL 60637 rivers@cars3.uchicago.edu (Internet)

Subject: Re: Can I do this without using loops?
Posted by peter on Wed, 05 Jun 1996 07:00:00 GMT
View Forum Message <> Reply to Message

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
: the mo. I'm just using loops through all the pixels using an if greater
: 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
View Forum Message <> Reply to Message

Re: Finding larger of pixel set.

try:

x = image_1
y = image_2

bigger_of_x_y = x > y

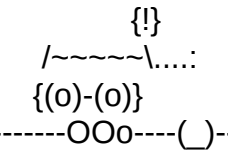
or

bigger_of_x_y = y > x

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

Cheers - Bruce

--



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
View Forum Message <> Reply to Message

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

--
Kenneth P. Bowman, Assoc. Prof. 409-862-4060
Department of Meteorology 409-862-4132 fax
Texas A&M University bowman@csrp.tamu.edu
College Station, TX 77843-3150
Satellite ozone movies on CD-ROM --> http://www.lenticular.com/

Subject: Re: Can I do this without using loops?
Posted by santanu on Sat, 08 Jun 1996 07:00:00 GMT
View Forum Message <> Reply to Message

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
