Subject: Re: do I need this IF statement?
Posted by David Fanning on Thu, 24 Mar 2005 12:48:53 GMT
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Margrethe writes:

> I find that in some cases I really need an IF statement to make sure
> that I don't address some arrays with index -1. In the example below I
> have vectorized the inner loop over j, but have kept the loop over i.
> Is there a way to avoid the IF statement? Grateful for help! -Margrethe
>
> FOR i=0,N-1 DO BEGIN
>
> d = sqrt (x(i) ^2 + y (INDGEN(N)) ^2)
> indx = WHERE (d LT 3.*sigma, ct)
>
> IF (ct GT 0) THEN BEGIN
>
> v = v1 + vr (i,indx)
> p = some_function (x(i), y(indx))
> profile = profile + TOTAL (p * image(i,indx))
>
> ENDIF
>
> ENDFOR

JD has me totally intimidated about making sweeping generalizations,
but I'm going to state emphatically that you NEED the IF statement.
We'll see if that turns out to be true. :-)

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/

Subject: Re: do I need this IF statement?
Posted by Benjamin Luethi on Thu, 24 Mar 2005 15:05:52 GMT
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Hi,

No, if I understand your program correctly: You're adding all image
values that are closer than 3sigma (to be precise you weigh each value

with p before adding).

You can achieve the same with the following 4 lines:

```
d = SQRT(x(INDGEN(M))^2 + y(INDGEN(N))^2)
usable = d lt 3.*sigma

p = some_function( x(INDGEN(M)), y(INDGEN(N)) )

profile = TOTAL( usable * p * image )
```

If a position (x(i),y(j)) is further away than 3sigma then usable[i,j]
is zero and thus the image value is not added to the profile.

I don't know what you do in v = v1 + vr(i,indx). It doesn't make sense
since v is overwritten in each loop and never used anyway...

And note:
if y has N elements then you can write y instead of y(INDGEN(N)).

This is a solution to this case - there might be some cases however,
where it's not that easy or even impossible.

Ben

On 24 Mar 2005 02:07:01 -0800, Margrethe <margrethewold@hotmail.com> wrote:

```
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>  that I don't address some arrays with index -1. In the example below I
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>      v = v1 + vr (i,indx)
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>      profile = profile + TOTAL ( p * image(i,indx) )
```

>
> ENDIF
>
> ENDFOR
>

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Subject: Re: do I need this IF statement?
Posted by Benjamin Luethi on Thu, 24 Mar 2005 15:29:43 GMT
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Hi again,

Just realized that d = SQRT(x(INDGEN(M))^2 + y(INDGEN(N))^2) isn't giving
you the desired matrix (it's just a vector). But

d = SQRT((x(INDGEN(M))#replicate(1,N))^2
+ (y(INDGEN(N))#replicate(1,M))^2)

should work...

Ben

On Thu, 24 Mar 2005 16:05:52 +0100, Benjamin Luethi <luethi@phim.unibe.ch>
wrote:

> Hi,
>
> No, if I understand your program correctly: You're adding all image
> values that are closer than 3sigma (to be precise you weigh each value
> with p before adding).
>
> You can achieve the same with the following 4 lines:
>
> d = SQRT(x(INDGEN(M))^2 + y(INDGEN(N))^2)
> usable = d lt 3.*sigma
>
> p = some_function(x(INDGEN(M)), y(INDGEN(N)))
>
> profile = TOTAL(usable * p * image)
>
> If a position (x(i),y(j)) is further away than 3sigma then usable[i,j]
> is zero and thus the image value is not added to the profile.

>
> I don't know what you do in v = v1 + vr(i,indx). It doesn't make sense
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>
> And note:
> if y has N elements then you can write y instead of y(INDGEN(N)).
>
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