Subject: Re: adding subset image into larger one
Posted by jeanh on Tue, 23 Mar 2010 16:14:37 GMT
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On 23/03/2010 11:00 AM, Suguru Amakubo wrote:
> Hi I am currently trying to add a subset of image (30x30) into a
> larger image (400x400) in 2 different sinarios:
>
> 1) adding a 30x30 subset taken from a 400x400 image and adding it to
> another 400x400 image.
>
> and
>
> 2) adding a 30x30 subset image into a blank 400x400 image
>
> I have encountered problems in both cases. for case 1) I could not
> find anywhere the syntax of adding the subset into the correct
> position. I used:
>
> new_image = new_image[tr_point(0,a):tr_point(0,a)
> +L-1,tr_point(1,a):tr_point(1,a)+L-1] + temp_image
>
> where tr_point is an array that contains the coordinates of the
> subset to be added and L = 30, temp_image is the subset. But seems
> like the new image does not change.
>
> for 2) aside from the problem I have above when I run the code above
> with the blank image IDL seems to 'crop' the blank 400x400 image into
> a 30x30 image...
>
> Would anybody have a solution to this?
>
> Thank you in advance
>
> Suguru

Hi Suguru,
the problem is that you are indeed subsetting your original image,
"deleting" the reminders!
Try this:
new_image[tr_point(0,a):tr_point(0,a)+L-1,tr_point(1,a):tr_p oint(1,a)+L-1]
+= temp_image

or

new_blank_image[tr_point(0,a):tr_point(0,a)+L-1,tr_point(1,a):tr_point(1,a)+L-1]
= temp_image

Jean

Subject: Re: adding subset image into larger one
Posted by Suguru Amakubo on Tue, 23 Mar 2010 16:59:48 GMT
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Hi thank you for the quick response. :)

Unfortunately both of those codes seem to have given me compilation
errors...

Any ideas?

p.s. For future reference please tell me what += does. :)

Subject: Re: adding subset image into larger one
Posted by Jeremy Bailin on Tue, 23 Mar 2010 18:07:32 GMT
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On Mar 23, 12:59 pm, Suguru Amakubo <sfa2...@googlemail.com> wrote:
> Hi thank you for the quick response. :)
>
> Unfortunately both of those codes seem to have given me compilation
> errors...
>
> Any ideas?
>
> p.s. For future reference please tell me what += does. :)

a op= b

is equivalent to

a = a op b

-Jeremy.

Subject: Re: adding subset image into larger one
Posted by penteado on Tue, 23 Mar 2010 18:21:35 GMT
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On Mar 23, 1:59 pm, Suguru Amakubo <sfa2...@googlemail.com> wrote:
> Unfortunately both of those codes seem to have given me compilation
> errors...

>
> Any ideas?
>
> p.s. For future reference please tell me what += does. :)

Can you give more details on what errors, and where? Is it really a compilation error, or is it a runtime error? Each case has different possibilities for the source of the error.

What jeanh wrote makes sense, though I would suggest using [] instead of () in the array indices,

```
 new_image[tr_point[0,a]:tr_point[0,a]+L-1,tr_point[1,a]:tr_p oint[1,a]
+L-1] += temp_image
```

so that tr_point does not get confused with a function call.

Subject: Re: adding subset image into larger one
Posted by Suguru Amakubo on Wed, 24 Mar 2010 00:08:27 GMT
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Thank you all for the reply.

yes this seems like a compilation error, I get the output below when I compile it:

```
IDL> .COMPILE "C:\Users\kaizo\physics\block_shift.pro"

 new_image = new_image[tr_point[0,a]:tr_point[0,a]
+L-1,tr_point[1,a]:tr_point[1,a]+L-1] += temp_image

^
Syntax error.
  At: C:\Users\kaizo\physics\block_shift.pro, Line 58

 population = population[tr_point[0,a]:tr_point[0,a]
+L,tr_point[1,a]:tr_point[1,a]+L] += coverage_image

^
Syntax error.
  At: C:\Users\kaizo\physics\block_shift.pro, Line 61
2 Compilation error(s) in module BLOCK_SHIFT.
```

and here are the while loop that contains them (I do get runtime error running the below but that I now know how to resolve it and will be done soon) :

```
a=0
b=-1

;while loop that runs through the array and places blocks on top of
the image
while a LT n_elements(mc_point[0,*]) do begin

 ;extracting the block from the original image
 temp_image = new_image2[mc_point[0,b+1]:mc_point[0,b
+1]+L-1,mc_point[1,a]:mc_point[1,a]+L-1]

 ;adding the subset to a 400x400 image
 new_image = new_image[tr_point[0,a]:tr_point[0,a]
+L-1,tr_point[1,a]:tr_point[1,a]+L-1] += temp_image

 ;adding an 30x30 array of 1s to a blank 400x400 image population
 population = population[tr_point[0,a]:tr_point[0,a]
+L,tr_point[1,a]:tr_point[1,a]+L] += coverage_image

 a=a+1
 b=b+1

endwhile
```

Again thank you very much for your help. :)

Suguru

Subject: Re: adding subset image into larger one
Posted by wlandsman on Wed, 24 Mar 2010 00:22:35 GMT

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On Mar 23, 7:08 pm, Suguru Amakubo <sfa2...@googlemail.com> wrote:
> yes this seems like a compilation error, I get the output below when I
> compile it:
>
> IDL> .COMPILE "C:\Users\kaizo\physics\block_shift.pro"
>
> new_image = new_image[tr_point[0,a]:tr_point[0,a]
> +L-1,tr_point[1,a]:tr_point[1,a]+L-1] += temp_image
>
> ^
> Syntax error.

Just to be sure -- if you are really breaking this into two lines (and
I am not just seeing text wrapping) then you need a continuation
symbol $

```
      new_image = new_image[tr_point[0,a]:tr_point[0,a] $
  +L-1,tr_point[1,a]:tr_point[1,a]+L-1] += temp_image
```

Wayne

Subject: Re: adding subset image into larger one
Posted by Suguru Amakubo on Wed, 24 Mar 2010 00:27:41 GMT
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On 24 Mar, 00:22, wlandsman <wlands...@gmail.com> wrote:
> On Mar 23, 7:08 pm, Suguru Amakubo <sfa2...@googlemail.com> wrote:
>
>> yes this seems like a compilation error, I get the output below when I
>> compile it:
>
>> IDL> .COMPILE "C:\Users\kaizo\physics\block_shift.pro"
>
>> new_image = new_image[tr_point[0,a]:tr_point[0,a]
>> +L-1,tr_point[1,a]:tr_point[1,a]+L-1] += temp_image
>
>> ^
>> Syntax error.
>
> Just to be sure -- if you are really breaking this into two lines (and
> I am not just seeing text wrapping) then you need a continuation
> symbol $
>
> new_image = new_image[tr_point[0,a]:tr_point[0,a] $
>   +L-1,tr_point[1,a]:tr_point[1,a]+L-1] += temp_image
>
> Wayne

It unfortunately is text wrapping, on the actual code its one line.

Subject: Re: adding subset image into larger one
Posted by penteado on Wed, 24 Mar 2010 00:29:18 GMT
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On Mar 23, 9:22 pm, wlandsman <wlands...@gmail.com> wrote:
> Just to be sure -- if you are really breaking this into two lines (and
> I am not just seeing text wrapping) then you need a continuation
> symbol $
>
> new_image = new_image[tr_point[0,a]:tr_point[0,a] $

> +L-1,tr_point[1,a]:tr_point[1,a]+L-1] += temp_image

There is that, but there is also a more serious issue. It should be:

new_image[tr_point[0,a]:tr_point[0,a] $
+L-1,tr_point[1,a]:tr_point[1,a]+L-1] += temp_image

He had two assignments in one line.

Subject: Re: adding subset image into larger one
Posted by Suguru Amakubo on Wed, 24 Mar 2010 00:53:38 GMT
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Unfortunately if I do that the function of the line (I think) will
change.

I intend the line to add the subset on top of the bigger image in a
while loop and the definition of the temp_image is done on the
previous line.

The original code was like:

a=0
b=-1

;while loop that runs through the array and places blocks on top of
the image
while a LT n_elements(mc_point[0,*]) do begin

    ;extracting the block from the original image
    temp_image = new_image2[mc_point[0,b+1]:mc_point[0,b
+1]+L-1,mc_point[1,a]:mc_point[1,a]+L-1]

    ;adding the subset to a 400x400 image
    new_image = new_image[tr_point[0,a]:tr_point[0,a]
+L-1,tr_point[1,a]:tr_point[1,a]+L-1] + temp_image

    ;adding an 30x30 array of 1s to a blank 400x400 image
population
    population = population[tr_point[0,a]:tr_point[0,a]
+L,tr_point[1,a]:tr_point[1,a]+L] + coverage_image

    a=a+1
    b=b+1

endwhile

So the temp_image (a 30x30 array) was added to new_image(400x400) and
ditto with population and coverage_image

I am under the impression that

new_image[tr_point[0,a]:tr_point[0,a] $
+L-1,tr_point[1,a]:tr_point[1,a]+L-1] += temp_image

will define the portion of new_image as temp_image (please tell me if
I am making a critical mistake) :)

Subject: Re: adding subset image into larger one
Posted by penteado on Wed, 24 Mar 2010 01:01:55 GMT
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On Mar 23, 9:53 pm, Suguru Amakubo <sfa2...@googlemail.com> wrote:
> I am under the impression that
>
> new_image[tr_point[0,a]:tr_point[0,a] $
> +L-1,tr_point[1,a]:tr_point[1,a]+L-1] += temp_image
>
> will define the portion of new_image as temp_image (please tell me if
> I am making a critical mistake) :)

Yes, it is a critical mistake. You are not seeing the difference
between the operators (=) and (+=). As Jeremy said,

a+=b

means*

a=a+b

Which seems to be what you want.

(*) The two expressions do not mean the same when evaluating a has
side effects, which is not the case here.

Subject: Re: adding subset image into larger one
Posted by Suguru Amakubo on Wed, 24 Mar 2010 02:02:11 GMT
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Ah I see! That explains it so essentially its:

new_image[tr_point[0,a]:tr_point[0,a]+L-1,tr_point[1,a]:tr_p oint[1,a]

```
+L-1] = new_image[tr_point[0,a]:tr_point[0,a]
+L-1,tr_point[1,a]:tr_point[1,a]+L-1] + temp_image
```

thus just adding to the part of the new_image array. Sorry I was a bit confused earlier.

One question though is that when I run this I was given a run time error saying that I am out of range on the first cycle of the loop (when I checked the coordinates are sane and is not out of range):

(Some changes were added to avoid out of range errors, unrelated to above):

```
nn=n_elements(mc_point(0,*))

;for loop that runs through the array and places blocks on top of the
image
for kk=0L,nn-1 do begin
x0 = mc_point(0,kk)
y0 = mc_point(1,kk)

 if (x0 ge size_of_image - L) or (y0 ge size_of_image - L) then begin

  if x0 ge size_of_image -L && y0 ge size_of_image -L then begin

  temp_image = new_image2[size_of_image -L: size_of_image-1,
size_of_image -L:size_of_image-1]

  endif else if x0 ge size_of_image -L && y0 le size_of_image - L &&
y0 ge 0 then begin

  temp_image = new_image2[size_of_image -L:size_of_image-1, y0:y0+L-1]

  endif else if x0 le size_of_image -L and y0 ge size_of_image -L and
x0 ge 0 then begin

  temp_image = new_image2[x0:x0+L-1 , size_of_image -
L:size_of_image-1]

  endif

 endif else begin

 ;extracting the block from the original image
 temp_image = new_image2[mc_point[0,kk]:mc_point[0,kk]
+L-1,mc_point[1,kk]:mc_point[1,kk]+L-1]

 ;adding the subset to a 400x400 image
```

```
;The error occures here
 new_image[tr_point[0,kk]:tr_point[0,kk]
+L-1,tr_point[1,kk]:tr_point[1,kk]+L-1] += temp_image

 ;adding an 30x30 array of 1s to a blank 400x400 image population
 population[tr_point[0,kk]:tr_point[0,kk]
+L,tr_point[1,kk]:tr_point[1,kk]+L] += coverage_image

 endelse
endfor
```

sorry about the text wrapping and thank you all for the help :)

Subject: Re: adding subset image into larger one
Posted by penteado on Wed, 24 Mar 2010 02:19:04 GMT
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On Mar 23, 11:02 pm, Suguru Amakubo <sfa2...@googlemail.com> wrote:
> One question though is that when I run this I was given a run time
> error saying that I am out of range on the first cycle of the loop
> (when I checked the coordinates are sane and is not out of range):
> ;adding the subset to a 400x400 image
> ;The error occures here
> new_image[tr_point[0,kk]:tr_point[0,kk]
> +L-1,tr_point[1,kk]:tr_point[1,kk]+L-1] += temp_image

Then it is just the same as

http://groups.google.com/group/comp.lang.idl-pvwave/browse_t hread/thread/f6dd6d90a31a604c

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