Subject: Re: array concatenation in 2-D
Posted by David Fanning on Fri, 04 Apr 2008 18:57:21 GMT
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elwood writes:

> How do i achieve this without knowing the array size??

Pointers. :-)

Cheers,

David
--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming (www.dfanning.com)
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: array concatenation in 2-D
Posted by R.G. Stockwell on Fri, 04 Apr 2008 19:27:03 GMT
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"elwood" <epolomsk@uwsp.edu> wrote in message
news:16c1abdd-df95-48b4-8bde-3310d5d19409@c65g2000hsa.google groups.com...
>
> I have a loop which calculates two variables x[i] and y[i]
>
> At each iteration of the loop I calculate
> x and y
> And I'd like to concatenate x and y into a 2 column, unknown numbers
> of rows
> output array.
> I'd like to dynamically grow the output array at each interation.
>
> For example:
> x=1 y=5 on first iteration
> x=2, y=6 on 2nd iteration
> I want an output array that looks like the below:
>
> 1 5
> 2 6
>

If it is always 2 columns by whatever rows, then just concatenate the
arrays.

(you may have to do some tranposes)

If there is a variable number of columns, then as David says, pointers.

Cheers,
bob

Subject: Re: array concatenation in 2-D
Posted by Jean H. on Fri, 04 Apr 2008 19:31:13 GMT
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elwood wrote:
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> 1 5
> 2 6
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> How do i achieve this without knowing the array size??
>
>
> Tx!
> -Elisha

Elisha,
You can concatenate the arrays, as you suggest:

a = [[1,2],[3,4]]
a = [[a],[5,6]]
help,a
==>A INT = Array[2, 3]

However, if you have many elements, this can be very resources consuming. Another option is to create a "big" 2*n array, to progressively fill it, to keep a counter on the number of entries, and finally to cut what you haven't used.... and similarly, if your array is

not big enough, add a large number of rows and keep filling them (use
the same concatenation method as above)

Jean

Subject: Re: array concatenation in 2-D
Posted by David Fanning on Fri, 04 Apr 2008 19:40:09 GMT
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R.G. Stockwell writes:

> If it is always 2 columns by whatever rows, then just concatenate the
> arrays.
> (you may have to do some tranposes)
>
> If there is a variable number of columns, then as David says, pointers.

Oh, here (for those you don't have time to read
the Dimensional Juggling and Pointer tutorials):

```
  PRO Example
  arrayptr = Ptr_New()
  seed = -3L
  FOR j=0,9 DO BEGIN
    points = Randomu(seed, 2)
    Print, 'Points: ', points
    IF j EQ 0 THEN $
      arrayptr = Ptr_New(points) ELSE $
      *arrayptr = [[Temporary(*arrayptr)],[points]]
   ENDFOR

   Print, 'Print Values in Pointer'
   Print, *arrayPtr
   Ptr_Free, arrayPtr
   END
```

Results in:

```
Points:      0.897916     0.558249
Points:      0.766930     0.589101
Points:     0.0603181     0.973112
Points:     0.0378892     0.218058
Points:      0.142394     0.984703
Points:      0.894904     0.947651
Points:      0.804079     0.160385
Points:      0.208246     0.818130
Points:      0.103716     0.741117
```

Points: 0.0134482 0.0960160
Print Values in Pointer
  0.897916 0.558249
  0.766930 0.589101
 0.0603181 0.973112
 0.0378892 0.218058
  0.142394 0.984703
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Cheers,

David
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David Fanning, Ph.D.
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Subject: Re: array concatenation in 2-D
Posted by ben.bighair on Fri, 04 Apr 2008 21:25:35 GMT
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On Apr 4, 3:31 pm, Jean H <jghas...@DELTHIS.ucalgary.ANDTHIS.ca>
wrote:
> elwood wrote:
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>
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>> x and y
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>> -Elisha
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> Elisha,
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> ==>A INT = Array[2, 3]
>
> However, if you have many elements, this can be very resources
> consuming. Another option is to create a "big" 2*n array, to
> progressively fill it, to keep a counter on the number of entries, and
> finally to cut what you haven't used.... and similarly, if your array is
> not big enough, add a large number of rows and keep filling them (use
> the same concatenation method as above)
>

Hi,

As a second to the method jean suggests, you might want to consider using Mike Galloy's collections objects which are efficient resizable buckets for holding data. Check it out at ...

http://michaelgalloy.com/2006/04/24/collection-package-mgarr aylist.html

Cheers,
Ben

Subject: Re: array concatenation in 2-D
Posted by elwood on Wed, 09 Apr 2008 01:19:27 GMT
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On Apr 4, 2:31 pm, Jean H <jghas...@DELTHIS.ucalgary.ANDTHIS.ca>
wrote:
> elwood wrote:
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> progressively fill it, to keep a counter on the number of entries, and
> finally to cut what you haven't used.... and similarly, if your array is
> not big enough, add a large number of rows and keep filling them (use
> the same concatenation method as above)
>
> Jean

Alas, this is a form of concatenation, but it does not produce
the required results.
I need to concatenate by COLUMN, not row.
If I code the concatenation you show, it produces:
column 1:
1 2
3 4
5 6

Whereas I need it to paste the columns together such that I
get
1 3 5
2 4 6

To be specific, each iteration of the loop
I calculate new values of x and y
I want to do the following, but using concatenation
outputarry[0,0]=x1

outputarry[1,0]=y1

next iteration
outputarry[0,1]=x2
outputarry[1,1]=y2

to get a final array where x values are in column 0
y values are in column 1
