
Subject: Re: Need efficient routine to calculate max of two arrays

Posted by [dan](#) on Tue, 24 Jan 1995 23:12:31 GMT

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In article <3g3p8i\$1o6@cobra.aer.com>, gallery@aer.com (William O. Gallery) writes:

|> Here is the problem:

|>

|> There are two arrays: a and b of equal length, I want to calculate

|> an array c of the same length so that:

|> $c(i) = \min(a(i), b(i))$

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|> Any suggestions? This would seem to be a common enough problem,

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|> --

|> William O. Gallery

gallery@aer.com

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|> 840 Memorial Drive

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|> Cambridge, Massachusetts 02139

FAX (617) 661-6479

How about

$c = a$

$c(\text{where}(b \text{ lt } a)) = b(\text{where}(b \text{ lt } a))$

--

** Dan Bergmann

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Subject: RE: Need efficient routine to calculate max of two arrays

Posted by [mallozzi](#) on Wed, 25 Jan 1995 01:29:10 GMT

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|> There are two arrays: a and b of equal length, I want to calculate

|> an array c of the same length so that:

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Try this:

IDL> a = [1., 2, 3, 4, 5]

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

IDL> c = a < b

IDL> print, a

```
1.00000  2.00000  3.00000  4.00000  5.00000
IDL> print, b
1.00000  2.00000  3.00000  2.00000  1.00000
IDL> print, c
1.00000  2.00000  3.00000  2.00000  1.00000
```

mallozzi@ssl.msfc.nasa.gov

Subject: Re: Need efficient routine to calculate max of two arrays

Posted by [kommers](#) on Wed, 25 Jan 1995 02:45:34 GMT

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> In article <3g3p8i\$1o6@cobra.aer.com>, gallery@aer.com (William O. Gallery) writes:

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> |> an array c of the same length so that:

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I think the < and > operators implement this functionality efficiently.

For example:

```
IDL> a = [5,4,3,2,1]
```

```
IDL> b = [1,2,3,4,5]
```

```
IDL> c = a < b
```

```
IDL> print, c
```

```
1      2      3      2      1
```

The < operator does the "min" part, and > does the "max" part.

For more info, see under "operators" in the User's Guide.

Cheers,

Jeff

Subject: Re: Need efficient routine to calculate max of two arrays

Posted by [karsten](#) on Wed, 25 Jan 1995 07:55:49 GMT

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In article <3g3p8i\$1o6@cobra.aer.com>, gallery@aer.com (William O. Gallery) writes:

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|>

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|> Any suggestions? This would seem to be a common enough problem,
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|> --
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|> 840 Memorial Drive (617) 547-6207
|> Cambridge, Massachusetts 02139 FAX (617) 661-6479

Try,

$c = a < b$

Karsten Heia
Applied physics
University of Tromsø
Tromsø
NORWAY

Subject: Re: Need efficient routine to calculate max of two arrays
Posted by [thompson](#) on Wed, 25 Jan 1995 17:01:38 GMT
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gallery@aer.com (William O. Gallery) writes:

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> an array c of the same length so that:
> $c(i) = \min(a(i), b(i))$

> For efficiency, I want to use vectors and not a do loop.

Try this:

$C = A < B$

Bill Thompson

Subject: Re: Need efficient routine to calculate max of two arrays

Posted by [kucera](#) on Wed, 25 Jan 1995 17:17:00 GMT

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In article <3g3p8i\$1o6@cobra.aer.com>, gallery@aer.com (William O. Gallery) writes...

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>

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> Any suggestions? This would seem to be a common enough problem,

>

>

$c = a < b$

Terry Kucera

kucera@stars.gsfc.nasa.gov

Subject: Re: Need efficient routine to calculate max of two arrays

Posted by [mfishler](#) on Thu, 26 Jan 1995 01:07:22 GMT

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In article <3g3p8i\$1o6@cobra.aer.com>, gallery@aer.com (William O. Gallery) writes:

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>

For the operation stated, $c = a < b$ will do the trick.

For max instead of min, use $c = a > b$.

Good luck!

==Matthew

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+-----+-----+-----+-----+
| (_ | Matthew G. Fishler |
| _ | The Johns Hopkins School of Medicine | "It is a miracle |

())	720 Rutland Ave --- 701 Traylor Bldg	that curiosity
_	Baltimore, MD 21205	survives formal
(	tel:(410)955-0077 fax:(410)955-0549	education."
(	e-mail: mfishler@bme.jhu.edu	--Albert Einstein
+-----+-----+-----+-----+-----+-----+

Subject: Re: Need efficient routine to calculate max of two arrays

Posted by [pa64](#) on Thu, 26 Jan 1995 14:25:37 GMT

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In article <3g3p8i\$1o6@cobra.aer.com>, gallery@aer.com (William O. Gallery) writes:

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Up to four arrays, the following function seems to be quite efficient:

```
function pmin,im1,im2,im3,im4
if n_params() gt 3 then begin
  index = where(im4 lt im3, count)
  if count gt 0 then im3(index) = im4(index)
endif
if n_params() gt 2 then begin
  index = where(im3 lt im2, count)
  if count gt 0 then im2(index) = im3(index)
endif
if n_params() gt 1 then begin
  index = where(im2 lt im1, count)
  if count gt 0 then im1(index) = im2(index)
endif
return,im1
end
```

Regards,
Hermann Mannstein

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