
Subject: Re: indexing 2-d vs. 3-d arrays...ARGH!
Posted by [JD Smith](#) on Tue, 19 Apr 2005 23:27:08 GMT
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On Tue, 19 Apr 2005 14:39:20 -0700, Henry wrote:

```
>
> Hey folks,
>
> This one tripped me up today. Wonder how many other places in code
> I've been messed up by it. I (vaguely) understand the logic behind it.
>
> Let's say you want to grab some points out of a 2-d image or a 3-d
> stack of images:
>
> To set the stage, some pretend images and indexes of the points to
> grab:
> arr2 = dindgen(10,10)
> arr3 = dindgen(10,10,5)
> index1 = [2,6]
> index2 = [3,7]
>
> Now,
> help, arr2[index1,index2]
> gives
> <Expression>  DOUBLE  = Array[2]
> which is what I would expect.
>
> BUT,
> help,arr3[index1, index2, 2]
> gives
> <Expression>  DOUBLE  = Array[2, 2]
> which is what screwed me up.
>
> IDL demands:
> help,arr3[index1, index2, replicate(2,2)]
> to get:
> <Expression>  DOUBLE  = Array[2]
>
>
> Get it? Got it? Good.
```

Why don't you have a read through:

http://dfanning.com/misc_tips/submemory.html

The bottom line? If all indexing arrays match in dimension, as a special case, IDL "threads the list" and the result has the same size

as each index array. If they don't match, it "inflates the list", by matching things up one element at a time. So in your middle case, it sees:

[2,6],[3,7],2

and it says: OK, we're don't have matched index arrays. They must want 2,6,2; 6,7,2; 6,3,2; 6,7,2. You might argue you really wanted 2,3,2;6,7,2, and would therefore prefer IDL to sub-thread any subset of the indexing arrays which have matching dimensions. It's not a bad idea, it just isn't how IDL works.

JD

P.S. David, I hope you don't stop pulling those nuggets from the newgroup and sticking them on your webpage (or, perish the thought, let your webpage wither and die).

Subject: Re: indexing 2-d vs. 3-d arrays...ARGH!
Posted by [Henry](#) on Wed, 20 Apr 2005 17:24:42 GMT
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Yep...it was one of those many things I once knew, but then forgot. I actually went searching through some old code to see if I'd messed it up elsewhere. I found I'd taken advantage of this in a couple places and even left gloating comments about what a neat trick it was!! I claim graduate school ate my brain.

Let me echo JD's request: David, please, whatever you do, don't let your web page die. I use it too often, and (more importantly) refer people to it too often.

cheers,
-Henry

Subject: Re: indexing 2-d vs. 3-d arrays...ARGH!
Posted by [K. Bowman](#) on Wed, 20 Apr 2005 17:47:39 GMT
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In article <1114017881.895662.89690@o13g2000cwo.googlegroups.com>, "Henry" <henrygroee@yahoo.com> wrote:

> Let me echo JD's request: David, please, whatever you do, don't let
> your web page die. I use it too often, and (more importantly) refer
> people to it too often.

I'm sure David isn't **really** going away. He only **thinks** he wants to go back to college. David is the Michael Jordan of IDL. (Remember MJ and baseball?).

Ken

Subject: Re: indexing 2-d vs. 3-d arrays...ARGH!
Posted by [David Fanning](#) on Wed, 20 Apr 2005 18:15:06 GMT
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Kenneth Bowman writes:

> I'm sure David isn't **really** going away. He only **thinks** he wants
> to go back to college. David is the Michael Jordan of IDL. (Remember
> MJ and baseball?).

You are probably right, but...still, I've pretty much given up competitive tennis and I **never** thought that would happen!

I feel like a snake shedding his skin. Who knows what is possible?

With respect to the web page, I have no current plans to abandon it, although the domain registration comes up for renewal soon and the PayPal contributions have been, well, less than overwhelming. I'd probably have to conclude there are about 5 people who find the information especially useful. :-)

Still, I need a forum for all the travel writing I plan soon. :-)

Cheers,

David

--

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

Subject: Re: indexing 2-d vs. 3-d arrays...ARGH!
Posted by [Henry](#) on Wed, 20 Apr 2005 20:49:51 GMT

> With respect to the web page, I have no current plans
> to abandon it, although the domain registration comes
> up for renewal soon and the PayPal contributions have
> been, well, less than overwhelming. I'd probably have
> to conclude there are about 5 people who find the
> information especially useful. :-)

Done.

-Henry

Subject: Re: indexing 2-d vs. 3-d arrays...ARGH!

Posted by [David Fanning](#) on Wed, 20 Apr 2005 21:08:23 GMT

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Henry writes:

>> With respect to the web page, I have no current plans
>> to abandon it, although the domain registration comes
>> up for renewal soon and the PayPal contributions have
>> been, well, less than overwhelming. I'd probably have
>> to conclude there are about 5 people who find the
>> information especially useful. :-)
>
> Done.
>
> -Henry

The fine folks at Habitat for Humanity thank you. :-)

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.dfanning.com/>
