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Subject: Generally accessing the rest of the elements in an array

Posted by [T Bowers](#) on Tue, 20 Feb 2001 22:58:47 GMT

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How do I access the 2nd + dimensions of an array generally, without knowing the

number of higher dims this array has. E.g. say a is a 3 column by n-dimensional

array, and n is unknown. Here, I'll define it as:

```
a = indgen(3,2,4)
```

I want the equivalent of (in this case):

```
b = (a[0,*,*])^2 + (a[1,*,*])^2 + (a[2,*,*])^2
```

but this requires \*\*ing the correct dimensions ([0,\*,\*] for 3 dims,

[0,\*,\*,\*] for 4 dims

etc). What I need is a general way to access the "rest" of the data, as Paul

Harvey

would say.

Actually, what I \*really\* want is to access it all generally so if a is 3

columns, it'll be

as above

```
b = (a[0,*,*])^2 + (a[1,*,*])^2 + (a[2,*,*])^2
```

but if it's 4 columns, it'll be

```
b = (a[0,*,*])^2 + (a[1,*,*])^2 + (a[2,*,*])^2 + (a[3,*,*])^2
```

5 columns...

```
b = (a[0,*,*])^2 + (a[1,*,*])^2 + (a[2,*,*])^2 + (a[3,*,*])^2 + (a[4,*,*])^2
```

n columns...

```
b = (a[0,*,*])^2 + (a[1,*,*])^2 + (a[2,*,*])^2 + ... + (a[n-1,*,*])^2
```

but I don't think this is possible without a for loop.

Anyway, back to the ranch. I do know that i could ask the data and select in

a case

or if then else block like

```
if (nDims eq 2) then b = b = (a[0,*])^2 + (a[1,*])^2 + (a[2,*])^2
```

```
else if (nDims eq 3) then b = (a[0,*,*])^2 + (a[1,*,*])^2 + (a[2,*,*])^2
```

```
else if (nDims eq 4) then b = (a[0,*,*,*])^2 + (a[1,*,*,*])^2 +
```

```
(a[2,*,*,*])^2
```

but I'm really doing other stuff in here too, and each of these cases would

end up

having about 10 cases \*within\* those cases. Uuuuugly.

I tried variants of  
a[0, \*]  
but I can't figure it out.

tia,  
todd

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Subject: Re: Generally accessing the rest of the elements in an array  
Posted by [T Bowers](#) on Thu, 22 Feb 2001 19:47:41 GMT  
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Thanks to all.

William: Thanks for a solution.

Jaco: Total() is out. I'm actually doing more. The sums of squares was  
just for example.

Paul: Yes, the thought of this was what made me have the idea of  
asking if there was a quick n easy way first. I hadn't thought about  
the a[0,\*,\*,\*,...] way. I agree, ugh.

Again, thanks.

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