Subject: Re: simple array math question
Posted by Jeff Guerber on Sat, 18 Jan 2003 04:21:34 GMT
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On 16 Jan 2003, Craig Markwardt wrote:

> Heinz Stege <reply_to_posting@arcor.de> writes:
>> On Thu, 16 Jan 2003 14:05:27 -0600, "Sean Raffuse" <sean@me.wustl.edu>
>> wrote:
>>
>>>> > a=[[1,2,3],[4,5,6],[7,8,9]]
>>>
>>>> > b=[1,2,3]
>>>
>>> What is the best (read, fastest) way to multiply b by each individual row of
>>> a? I would like to return a result of:
>>>
>>> [[1,4,9],[4,10,18],[7,14,27]]
>>
>>
>> result=a*b(*,intarr(3))
>
> WOW! I've never seen that! It scares me how cool that is. :-)
>
> Craig

That IS way cool, but, uhhh, would someone mind explaining just what's going on? I'm not getting it. It seems to only depend on the total number of elements in the indexing array, not on its values (or even dimensionality):

```
IDL> b=[4,5,6]
IDL> print,b[*,[10,10,10]]
      4       5       6
      4       5       6
      4       5       6
IDL> print,b[*,[1000,1000]]
      4       5       6
      4       5       6
IDL> print,b[*,[[10,10,10],[10,10,10]]]
      4       5       6
      4       5       6
      4       5       6
      4       5       6
      4       5       6
      4       5       6
IDL> help,b[*,[[10,10,10],[10,10,10]]]
<Expression>    INT       = Array[3, 6]
```

```
IDL>
```

Oh, you can apply it multiple times, too:

```
IDL> print,b[*,[10,10,10,10],[10,10]]
      4       5       6
      4       5       6
      4       5       6
      4       5       6

      4       5       6
      4       5       6
      4       5       6
      4       5       6
IDL> help,b[*,[10,10,10,10],[10,10]]
<Expression>    INT       = Array[3, 4, 2]
IDL>
```

Thanks,

Jeff Guerber
