
Subject: Re: Multiplication turning array into scalar -- who wants to try?

Posted by [David Fanning](#) on Sun, 01 Apr 2007 05:01:42 GMT

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swingnut@gmail.com writes:

> JOURNALING AT IDL PROMPT:

>

> temp=[0.0,-1.0,0.0]

> print,size(temp)

> ; 1 3 4 3

> temp2=-25.0

> print,size(temp2)

> ; 0 4 1

> print,temp2/ABS(temp2)

> ; -1.00000

> temp2=temp2/ABS(temp2)

> print,SIZE(temp2)

> ; 0 4 1

> print,temp2*temp

> ; 0.000000 1.00000 0.000000

> temp=temp2*temp

> print,temp

> ; 0.000000 1.00000 0.000000

> print,SIZE(temp)

> ; 1 3 4 3

>

> OUTPUT OF SEQUENCE OF PRINT STATEMENTS IN MY CODE:

>

> ;-----

> ;Adjusting density power law in increments of [0.000000 , -1.00000 ,
> 0.000000]

> ;adjustmentIncrement =

> ; 0.000000 -1.00000 0.000000

> ;SIZE of adjustmentIncrement =

> ; 1 3 4 3

> ;-----

> ;deltaVirtHeight =

> ; -0.0678234

> ;SIZE of deltaVirtHeight =

> ; 1 1 4 1

> ;-----

> ;signOfDifference = deltaVirtHeight/ABS(deltaVirtHeight) =

> ; -1.00000

> ;SIZE of signOfDifference =

> ; 1 1 4 1

> ;-----

> ;Multiply signOfDifference with each element of adjustmentIncrement,

```

> i.e.,
> ;adjustmentIncrement[i]=adjustmentIncrement[i]*signOfDifference,
> i=0,1,2:
> ;adjustmentIncrement =
> ; 0.000000 1.00000 0.000000
> ;SIZE of adjustmentIncrement =
> ; 1 3 4 3
> ;-----
> ;But if we do
> adjustmentIncrement=adjustmentIncrement*signOfDifference, it becomes a
> scalar?
> ;adjustmentIncrement =
> ; 0.000000
> ;SIZE of adjustmentIncrement =
> ; 1 1 4 1
> ; % Attempt to subscript LOCDENSPL with <INT ( 1)> is out
> of range.

```

It is a little hard to discern a question here, but I think you are confusing yourself by using the SIZE function. Using a HELP command might help more. Here is what is happening:

```

IDL> a = [1,2,3]
IDL> b = [3]
IDL> print, a*b
3
IDL> print, size(b)
1 1 2 1
IDL> help, b
B INT = Array[1]
IDL> b = 3
IDL> print, a*b
3 6 9
IDL> help, b
B INT = 3
IDL> print, size(b)
0 2 1

```

Your "signOfDifference" is a one-element array. When you multiply an array by another array, the result has as many elements as the *smallest* array.

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: <http://www.dfanning.com/>
Sepore ma de ni thui. ("Perhaps thou speakest truth.")
