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Subject: Re: Sky Falling, etc. : Array substitution + addition with plus-equal (+=)

Posted by [Foldy Lajos](#) on Tue, 13 Mar 2007 12:26:31 GMT

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On Mon, 12 Mar 2007, Ed Hyer wrote:

> Tentatively filed under "The Sky Is Falling!," and I hope it will be  
> resolved in the same fashion.

>

> Here is the test case, which gives the correct result:

>

> IDL> test=fltarr(2,2,4)

> IDL> testadd=fltarr(2,2,2) + 1

> IDL> print,total(test),total(testadd)

> 0.00000 8.00000

> IDL> test[0,0,1] += testadd

> IDL> print,total(test),total(testadd)

> 8.00000 8.00000

> IDL> test[0,0,1] += testadd

> IDL> print,total(test),total(testadd)

> 16.0000 8.00000

> IDL> print,test

> 0.00000 0.00000

> 0.00000 0.00000

>

> 2.00000 2.00000

> 2.00000 2.00000

>

> 2.00000 2.00000

> 2.00000 2.00000

>

> 0.00000 0.00000

> 0.00000 0.00000

>

> That is exactly what I expect from this operation.

>

> Here is another case, with results somewhat different

> IDL> test=fltarr(2,2,4)

> IDL> testadd=fltarr(2,2,2)

> IDL> testadd[0,0,\*]=1

> IDL> print,total(test),total(testadd)

> 0.00000 2.00000

> IDL> test[0,0,1] += testadd

> IDL> print,total(test),total(testadd)

> 2.00000 2.00000

> IDL> print,test

> 0.00000 0.00000

> 0.00000 0.00000

```

>
> 1.00000 0.00000
> 0.00000 0.00000
>
> 1.00000 0.00000
> 0.00000 0.00000
>
> 0.00000 0.00000
> 0.00000 0.00000 ; So far, so good
> IDL> test[0,0,1] += testadd ; Now, let's add again
> IDL> print,total(test),total(testadd)
> 10.0000 2.00000 ; Pardon the
> expression, WTF?
> IDL> print,test
> 0.00000 0.00000
> 0.00000 0.00000
>
> 2.00000 1.00000
> 1.00000 1.00000
>
> 2.00000 1.00000
> 1.00000 1.00000
>
> 0.00000 0.00000
> 0.00000 0.00000 ; Not even JD Smith
> expected _that_.
>
> Any ideas?
>

```

FL gives the same result, so it is correct :-)))

test[0,0,1] += testadd is transformed to the following form:

```

tmp = test[0,0,1] + testadd
test[0,0,1] = tmp

```

The first line is scalar - array addition, so the scalar is added to every element of the array (8 addition!), and tmp will be an array.

In the second line an array is assigned to a scalar subscripted array, so tmp is inserted into test.

I hope this helps.

regards,  
lajos