
Subject: Re: REPLICATE with arrays

Posted by [thompson](#) on Fri, 11 Feb 2000 08:00:00 GMT

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Vince Hradil <hradilv@yahoo.com> writes:

> I often have the need to replicate an array, but IDL's replicate only
> works with scalars. Does anyone have any tips on the most efficient,
> simplest, clearest (you choose) way to do this?

> e.g.

> I have:

> help, x

> INT = Array[3, 3]

> print, x

> 2 4 10

> 3 7 5

> 3 9 2

> and would like to do:

> x2 = replicate(x,2)

> help, x2

> INT = Array[3, 3, 2]

> print, x2

> 2 4 10

> 3 7 5

> 3 9 2

> 2 4 10

> 3 7 5

> 3 9 2

> I've figured out some trick for 1 and 2 dimensional arrays, but I'm
> looking for a more general strategy to use on higher dim arrays.

Stein Vidar Haugan once proposed the following strategy which appears to be highly efficient:

```
x2 = rebin( reform(x,3,3,1), 3,3,2)
```

If one always wants the replication dimension to be the last dimension, then the following should be a good way of generalizing it:

```
sz = size(x)
```

```
dim = sz[1:sz[0]]
```

```
x2 = reform(x,[dim,1])
```

```
case n_elements(dim) of
```

```
1: x2=rebin(x2,dim(0),n)
2: x2=rebin(x2,dim(0),dim(1),n)
3: x2=rebin(x2,dim(0),dim(1),dim(2),n)
4: x2=rebin(x2,dim(0),dim(1),dim(2),dim(3),n)
5: x2=rebin(x2,dim(0),dim(1),dim(2),dim(3),dim(4),n)
6: x2=rebin(x2,dim(0),dim(1),dim(2),dim(3),dim(4),dim(5),n)
7: x2=rebin(x2,dim(0),dim(1),dim(2),dim(3),dim(4),dim(5),dim(6) ,n)
endcase
```

William Thompson
