
Subject: Re: Question about using an array as an index
Posted by [Thomas A. McGlynn](#) on Wed, 26 Jun 1996 07:00:00 GMT
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David Schwab wrote:

```
>
> Can anyone explain why these two codes produce different results?
>
> IDL> a=[0,1,1,2,2,2]
> IDL> b=intarr(3)
> IDL> b(a)=b(a)+1
> IDL> print,b
>    1    1    1
> and
>
> IDL> a=[0,1,1,2,2,2]
> IDL> b=intarr(3)
> IDL> for i=0,5 do b(a(i))=b(a(i))+1
> IDL> print,b
>    1    2    3
>
> Thanks!
> --
> Dr. David J. Schwab
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> Ann Arbor, MI 48105
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```

I've been caught by this one myself. Basically when you do the statment
b(a)=b(a)+1

IDL acts as if all of the additions are being carried out in parallel,
not sequentially. I imagine that in cases where you are running on
a vectorizing system the operations are made parallel in fact. Since
the operations are parallel rather than sequential each of the additions
starts with b[a] = 0 so that the result is 1. I'd be interested in
comments as to whether the result is gauranteed to be 1 or if it's possible
that on some implementations it could differ. It would be nice to
get the kind of sequential behavior you're looking for (as an option)
but I imagine this is quite non-trivial and would probably slow down the
calculation to the rate it takes in explicit loops.

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