Subject: Re: Odd behaviour in array indexing ?
Posted by James Kuyper on Fri, 21 Feb 2003 15:48:47 GMT

mwvogel wrote:
>
> Today I realized something is amiss in IDL
> When I do
> index = [1,0,2,3,1,2,3,4]
> m = FLTARR(8)
> d = FINDGEN(8)
> m[index] = d
> print, m
>   1.00000   4.00000   5.00000   6.00000   7.00000
> 0.000000   0.000000   0.000000
>
> Now I would have assumed that IDL would automatically *add* the numbers with
> identical indices. ...

I'm not sure why you would assume that.

> ... Not doing
> so is a potential performance penaly, right ?

Actually, doing it would incur a performance penalty. The way it's
actually implemented internally is equivalent to the following:

 for i=0,7 do m[index[i]] = d[i]

except, of course, that it's far faster as "m[index] = d" than as an
explicit loop. That's a pretty efficient loop. I can't see anyway to
implement the behavior you want, that isn't a whole lot slower. The
closest I can get is equivalent to:

 initialized = intarr(8)
 FOR i=0,7 DO BEGIN
    IF initialized[index[i]] THEN m[index[i]] = d[i];
     ELSE m[index[i]] = m[index[i]] + d[i];

    initialized[index[i]] = 1;
 ENDIF