Subject: Re: Proper pointer cleanup question
Posted by Paul Van Delst[1] on Mon, 07 Apr 2003 23:23:15 GMT

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"M. Katz" wrote:
>
> I want to make sure I'm taking all the steps necessary to clean up
> pointers and free memory when I'm done with them. Here's an example.
>
> Suppose I have a pointer to a structure that contains pointers.
>
> a = ptr_new({n:10, p:ptrarr(10)})
>
> So, a is a pointer, and ((*a).p)(i) are pointers as well.
> When I'm done with a and all of it's components, I can do a few things
> to clean it up, but I don't want to do more than what's necessary.
> Here's a few options.
>
> 1) Just a:
> ptr_free, a
>
> 2) a and all of its dependent pointers:
> for i=0,n_elements((*a).p)-1 do $
>   ptr_free, ((*a).p)(i)
> ptr_free, a

#2 is the go. All the others leave you with dangling references and memory leaks. My
personal mantra is that when it comes to pointers, be very explicit in their garbage
collection i.e. don't assume freeing a pointer also frees any "child" pointers like the
components "p" in your example. (I actually don't know of any languages that *do* do that,
but I'm barely bilingual. :o)

>
> 3) Re-assign a to a scalar:
> a = 0
>
> 4) Re-assign *a to a scalar:
> *a = 0
>
> What's the best thing to do? My pointed-to arrays are going to get
> pretty large, so I don't want to strand any memory unnecessarily.

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