Subject: Re: freeing memory in programs
Posted by rivers on Thu, 23 Mar 1995 23:06:42 GMT
View Forum Message <> Reply to Message

In article <3ks2kr$ioo@dux.dundee.ac.uk>, pjclinch@dux.dundee.ac.uk (Pete Clinch) writes:
>
> I'm writing a Wave Widgets program that uses some big arrays (256 * 256 *
> 128 MRI image stacks). Some operations require temporary arrays to hold
> significant chunks of this, but I don't want these arrays around full
> time to choke the memory. I can't use DLEVAR as I'm not at the main
> program level, so how do I free up memory? If I had assigned an array
> by, say
>
> TmpArr = MAKE_ARRAY(256,256,128, /INT)
>
> would a subsequent use of something like TmpArr = BYTE(0) or
> TmpArr = MAKE_ARRAY(1) free up the memory, or would it still be taken up
> but no longer accessible?
>

I will free it up for re-use inside IDL. IDL does not return the memory to the operating system, i.e. those pages remain in the virtual memory your process is using. If you later allocate another big array inside IDL you will reuse the memory you previously released. HOWEVER, if you know that you will later be needing an array of exactly the same size you are better of NOT freeing up the memory. This is because IDL will fragment the memory you release (allocating small variables, etc.), and when you need it again there won't be a chunk which is big enough. IDL will then have to ask OS for more memory, and eventually you will run out.

_____

Mark Rivers	(312) 702-2279 (office)
CARS	(312) 702-9951 (secretary)
Univ. of Chicago	(312) 702-5454 (FAX)
5640 S. Ellis Ave.	(708) 922-0499 (home)
Chicago, IL 60637	rivers@cars3.uchicago.edu (Internet)

Subject: Re: freeing memory in programs
Posted by Fergus Gallagher on Fri, 24 Mar 1995 10:01:07 GMT
View Forum Message <> Reply to Message

> Subject: freeing memory in programs
> Date: 23 Mar 1995 15:03:55 -0000
> From: pjclinch@dux.dundee.ac.uk (Pete Clinch)
> Organization: The University, Dundee, DD1 4HN, Scotland, UK.
> Newsgroups: comp.lang.idl-pvwave
>

> I'm writing a Wave Widgets program that uses some big arrays (256 * 256 *
> 128 MRI image stacks). Some operations require temporary arrays to hold
> significant chunks of this, but I don't want these arrays around full
> time to choke the memory. I can't use DLEVAR as I'm not at the main
> program level, so how do I free up memory? If I had assigned an array
> by, say
>
> TmpArr = MAKE_ARRAY(256,256,128, /INT)
>
> would a subsequent use of something like TmpArr = BYTE(0) or
> TmpArr = MAKE_ARRAY(1) free up the memory, or would it still be taken up
> but no longer accessible?

There is the help,/mem command to help you with this. I *suspect* that it depends on the other memory that's been allocated in the meantime. The memory is almost certainly available but, generally, in a non-contiguous block wrt other memory on the heap.

Strangely,

IDL> tmp = intarr(1000,1000) ; say
IDL> print,temporary(tmp)

Help,/mem shows that memory has still been 'lost' in this case.

Note that here I have used an alternative way of 'deallocating' a variable.
(I seem to remember reading somewhere that it is preferable to tmp=0)

Fergus

==========
| Fergus Gallagher |
| Remote Sensing Applications Development Unit |
| British National Space Centre |
| Monks Wood |
| Huntingdon PE17 2LS / UK |
| |
| F.Gallagher@nerc.ac.uk |
| http://uh.nmt.ac.uk/bnsc/fgg.html |
==========