Subject: Re: Read Total lines in an ASCII file
Posted by Mark Hadfield on Mon, 16 Dec 2002 20:00:42 GMT
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"Robert Moss" <rmoss4@houston.rr.com> wrote in message news:yhnL9.168422$Gc.5459794@twister.austin.rr.com...
> Mark Hadfield wrote:

>> *snip*
>>
>> ... IDL arrays *look* like they can be extended,
>> but in fact every time you extend an IDL array you
>> create a new one.
>>
>
> What about this then?
>
> array = [TEMPORARY(array), new_element]

Before this statement executes you have an array occupying n*m bytes of memory, where n is number of elements and m is number of bytes to store one element. After it executes you have an array occupying (n-1)*m bytes. There is no way the new array will fit into the space vacated by the old array, so a new space has to be allocated and all the old elements copied over. This takes significant time (when n is large) and doing it repeatedly tends to leave unusable holes all over the memory space.

There are several things IDL could do to make the above more efficient:

- Allow arrays to be stored non-contiguously (as Numeric Python does, for example). Of course this would open up another can of worms. When your DLM wants to access a non-contiguous array, how does it no where to find the data?

- Extend arrays in chunks, eg the new array created above would be larger than the old one by a specified increment or a specified ratio (1.5 is a good compromise). Then the array could be extended several more times before the need arose to copy the whole thing. IDL would have to keep track of the fact that not all of the allocated space was currently being used.

- Uh, I am sure there are several more but I can't think of any right now.

I knew this had been discussed on the group some time in the past, so I searched Google. I found a thread that touches on this entitled "How

to use pointers instead of arrays" and dated 9-10 Dec 2002!

Those who do not remember history are condemned to repeat it, about once a week.

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Mark Hadfield "Ka puwaha te tai nei, Hoea tatou"
m.hadfield@niwa.co.nz
National Institute for Water and Atmospheric Research (NIWA)