Subject: Re: Array Subscripting Memory Usage (watch out!)
Posted by R.Bauer on Thu, 03 Oct 2002 10:40:44 GMT
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Andre Kyme wrote:

> Dick Jackson wrote:
>
>> Hi all,
>>
>> This may be old news to some of you, but it surprised me and a couple of
>> colleagues, and I couldn't find any discussion of it on this group, so
>> I'll share it around.
>>
>> I was surprised to find how much memory is used during access to a
>> subset of an array. I ran this, which makes a 1000x1000 array, and
>> accesses a subset of it using an array of subscripts:
>>
>> a = bindgen(1000, 1000)
>> subscripts = Long(RandomU(seed, 500)*1000)
>> baseMem = (memory())[0]
>> help, a[subscripts, *]
>> highWaterMem = (memory())[3]
>> Print, 'Memory used during access: ', highWaterMem-baseMem
>>
>> IDL> .GO
>> <Expression>   BYTE   = Array[500, 1000]
>> Memory used during access: 2500076
>>
>> The array being extracted is 0.5 million bytes, but it took 2.5 million
>> bytes to do it! I'm guessing that there's a Long array being made behind
>> the scenes that contains the indices of the elements I'm going to get
>> back.
>
> Dick, I ran your little program on IDL5.5 (Solaris 9) and got the
> following output:
>
> <Expression>   BYTE   = Array[500, 1000]
> Memory used during access: 4500128
>
> Yikes, I get 9N bytes needed to extract an N byte array!
>
> Andre

Dear Andre
did you have set LONG by compile_option to 64bit Long?

Reimar

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