

Re: ALLOCATABLE arrays

Source: <http://coding.derkeiler.com/Archive/Fortran/comp.lang.fortran/2004-01/0171.html>

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Tony Jay wrote:

> > *Do I read this right?*
> >
> > *Suppose I declare*
> >
> > *subroutine test*
> > *integer :: i*
> > *dimension i(k)*
> >
> > *where k is set in a module somewhere. Is it then the case that*
> > *a) i gets allocated automatically on entry to test and deallocated*
> > *on exit*
> > *b) this operation takes (essentially) zero time?*
> >
> > *Is that really all there is to it? I'm afraid to look a gift horse*
> > *in the mouth, but this sounds too good to be true!*
> >
> >
> *Gus,*
>
> *This technique can cause problems if you have insufficient stack size*
> *(especially if you add in a second array at a later date)*
>
> *My understanding is ...*
>
> *If try to create a very large array on the stack and you do not have enough*
> *stack (set up in the linking step of the compiler i think) then you program*
> *will fail at run time.*
>
> *Allocating on the heap gives you access to a hell of a lot more memory (well*
> *as much as your OS can find !)*
>
> *The typical allocate on the stack problem is to test with small problems and*
> *then end users use large problems bomb out. You then look a fool (speaking*
> *from personal experience)*

comp.lang.fortran: Re: ALLOCATABLE arrays

Hmmmh. 'Nother question, then: Do I get any control in where the array is allocated? Here is my current understanding from reading the various responses, many of which are over my head, I'm afraid:

Allocatable arrays are allocated on the heap. They can be pretty damn large, and I can inquire whether things went OK. The downside is that it is slow. Automatic arrays are always allocated on the stack. They are very fast, but if the stack overflows, I have no recourse, so I am SOOL. So why use them, except for very small arrays? Is there a compiler directive that moves automatic arrays to the heap?