

Re: double confusion

Source: <http://coding.derkeiler.com/Archive/Fortran/comp.lang.fortran/2006-07/msg00366.html>

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Julian Bessenroth wrote:

Ian Bush schrieb:

How is it different from C ?

If the subprogram and the main program were in different files and compiled separately how could you ensure that the main program knows what return type the function has ?

But these declaration are located onlz `_once_` at the begining of the file (before the main routine starts).

That just reflects the scoping rules in the language – C has a concept of file scope, while Fortran has different rules. In particular you should look into Modules that came in in Fortran 90, where you can just declare things "once at the beginning"

Fortran requires its declarations "within the main routine" and within every subroutine/function where i'm going to use the this function, and what confuses me somewhat more, that it's just required for double precision, but not for integer or real ...

This reflects the implicit Typing of the languages – in C functions return int by default so one could argue that it only applies to functions returning other types. Let's take a look at your example:

```
program bcont
```

Re: double confusion

```
double precision c
double precision a /2.0/
double precision b /2.0/
```

```
c=r(a,b)
```

```
write(*,*) 'result = ',c
```

```
stop
end
```

```
double precision function r(m,t)
double precision m
double precision t
r = m*t
```

```
c write(*,*) 'm = ',m,' t = ',t,' m*t= ',r
```

```
return
end
```

By default in fortran love it or loath it variables and functions beginning with a-h and o-z are real, while i-n is integer. So "god" is real, but not complex or logical. If you want something that is not real or integer you have to declare it (or ... no I won't go there). Thus you must declare all double precision variables. In fact many people think using the implicit typing scheme is bad practice, or at the very least leaves your code more susceptible to bugs due to typos, and so many people would use "Implicit None" which forces you to declare all your variables. Having to declare all the variables that are in scope ? Is that really that much different from many other languages ?

BTW as hinted above you seem to be using Fortran 77, which is 3 standard revisions out of date. I would suggest if you want to start using Fortran again you look into Fortran 90 & 95, I would suggest the latest standard but there aren't any full compilers out for it yet,

Ian

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