

Re: module problems

Source: <http://coding.derkeiler.com/Archive/Fortran/comp.lang.fortran/2006-05/msg00472.html>

- *From:* nospam@xxxxxxxxxxxxxx (Richard Maine)
 - *Date:* Sun, 14 May 2006 12:50:10 -0700
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<pieterprovoost@xxxxxxxx> wrote:

I'm trying to put a collection of subroutines and functions in a module, but this results in a number of "undefined reference".

This is a fairly common problem. When you have a procedure in a module, all the necessary information about the procedure is communicated by the USE statement for the module (or, in this case, other procedures in the same module have the information by virtue of being in the same module). You can **NOT** redeclare the information. In particular, you can not redeclare the type of functions from the module. Your code has such redeclarations.

When you do something like

```
double precision function co2hta (h, ta, t, s)
...
double precision :: kbdoe,...
co2hta = (ta - ((kbdoe(t, s) *...
```

The double precision declaration for kbdoe here tells the compiler to **NOT** use the module function kbdoe, but instead to use an external function of that name. There is no such external function; thus the error.

For external functions, you need to declare the type like this. For module functions, you cannot do that. You declare the type of a module function in one place only – in the function itself – not in places that invoke the function. This is one of the gotchas about moving external procedures into modules; you have to also find and remove all the type declarations for the procedures. (I do still recommend moving procedures into modules in many cases; this is just an extra step that is needed when doing so, though).

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Richard Maine | Good judgement comes from experience;
email: last name at domain . net | experience comes from bad judgement.

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domain: summertriangle | -- Mark Twain

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