Subject: Call_external passing problem
Posted by isoaga2 on Wed, 22 Oct 2003 05:42:12 GMT
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Hi everyone, recently i've been using the call_external function a bit to call fortran code through c wrappers and i thought i had it sorted however i can't seem to see my mistake in this one...

Here are the three pieces of code i'm using and the output i'm getting:

IDL CODE

```
 ------------------------------------------------------------ ----------------
pro hyper2

 a = -11.5d0
 b = 20.5d0
 c = 5.d0
 z = double((cos(!pi/3.)))
 re = 0.d0
 im = 0.d0
 out = call_external('/home/david/PhD/Fortran/hyper.so', 'hyper', $
    z, a, b, c, re, im)
stop
end
```

C WRAPPER

```
 ------------------------------------------------------------ ----------------
#include <stdio.h>

void hyper_cw(int argc, void *argv[])
{
        extern void hyp_();     /* Fortran Routine */
        int *argc;
        double *z, *a, *b, *c, *re, *im;

        z = (double *) argv[0];
        a = (double *) argv[1];
        b = (double *) argv[2];
        c = (double *) argv[3];
        re = (double *) argv[4];
        im = (double *) argv[5];
        hyp_(z,a,b,c,re,im);
}
```

FORTRAN CODE (or at least the beginning of it)

```
 ------------------------------------------------------------ ----------------
      subroutine hyp(z,a,b,c,re,im)
      real*8  zero,one,two,half
      parameter (zero=0.d0,one=1.d0,two=2.d0,half=0.5d0)
      integer flag,flag2,neps
      real*8   a,b,c,z,w,f,f1,f2,gamm,tol,test,pi,machep,re2,
     #         alpha0,alpha1,rn,binom,eps,re,im,x1,x2,x3,x4,
     #         coeff1,coeff2,coeff3,coeff4,temp1,temp2,term,
     #         a1,b1,c1,a2,b2,c2,alpha2
      logical fix
      common /bcoeff/binom(5151)

      write (6,*) z,a,b,c,re,im
      write (6,*) zero,one,two,half
```

COMPILED AND LINKED WITH (under linux - Gentoo - PC)

```
 ------------------------------------------------------------ ----------------
g77 -c hyp.f
gcc -c hyper_cw.c
gcc -shared -o hyper_cw.so hyp.o hyper_cw.o -lg2c
```

Then when i run the idl program i get the following output:

```
IDL> hyper2
  0.49999997 -11.5  20.5  0.49999997  20.5 -11.5
  0.  1.  2.  0.5
```

Which shows that the fortran subroutine is getting the first three arguments correctly, however the last three (c, re, im) are being mixed up somehow. Can anyone see my mistake, its driving me nutty...

Thanx.
