

Re: compiling taucs problem (Re: solving $Ax=b$ with sparse A)

Source: <http://sci.tech-archive.net/Archive/sci.math.num-analysis/2007-08/msg00072.html>

- *From:* "H.S." <hs.saDELETEmix@xxxxxxxxxx>
 - *Date:* Thu, 09 Aug 2007 12:28:12 -0400
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Georg Baum wrote:

The compiler tells it: The function declaration in line 6 of `spmat.cc` conflicts with the declaration in `taucs_private.h`, line 45. It should work if you remove your own declaration in `spmat.cc`.
In general it should not be needed to declare anything from a library, the library author should have done that in the header files already. If this is not the case then I'd question the quality of the library (the only exception are fortran libraries that you call from C, then you usually need to build your own declarations).

Georg

Okay, that makes sense. I also got similar advice from `comp.lang.c++.` (the people there are fanatically picky about talking about **only** about C++ language ... so I don't think I get further insights from there).

I tried it again without the `extern` keyword. Here is my example program I am trying now:

```
-----  
#define TAUCS_CORE_DOUBLE  
  
#include <taucs.h>  
  
extern taucs_ccs_matrix* taucs_ccs_create(int m,int n,int nnz,int flags);  
extern void taucs_ccs_free(taucs_ccs_matrix* matrix);  
  
int main(){  
int C,R,k;  
C=20;  
R=20;  
k=4;  
taucs_ccs_matrix *taucAsigmaIMat;  
taucAsigmaIMat = taucs_ccs_create(C, R, (k+1)*C,
```

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```
TAUCS_DOUBLE|TAUCS_SYMMETRIC);
```

```
//cleanup  
taucs_ccs_free(taucsAsigmaIMat);  
return 0;  
}
```

The external linker error has gone, but now I am getting linker errors.

From the errors it appears that my source file's object file cannot find

the two functions (see below) but I do not see why this is happening. The taucs library I am linking to has the symbols in it (checked with nm) and as far as I can see, I am giving the correct library path as well:

```
$> make  
g++ -g -ansi -Wall -c -Wno-deprecated -I./  
-I/home/hs/tmp/taucs/build/linux -I/home/hs/tmp/taucs/src spmat.cc -o  
spmat.o  
g++ spmat.o -o spmat -L/home/hs/tmp/taucs/lib/linux -ltaucs  
-L/home/hs/tmp/taucs/external/lib/linux -latlas -llapack -lf77blas  
-lcblas -latlas -lmetis -lm -lg2c  
spmat.o: In function `main':  
/home/hs/tmp/spmat/spmat.cc:15: undefined reference to  
`taucs_ccs_create(int, int, int, int)'  
/home/hs/tmp/spmat/spmat.cc:18: undefined reference to  
`taucs_ccs_free(taucs_ccs_matrix*)'  
collect2: ld returned 1 exit status  
make: *** [spmat] Error 1
```

I recall that I compiled the taucs library using `CC=gcc` during the make step. I can't see what I am doing wrong while compiling the example program above, do you think there could be a problem in compiling the taucs library to begin with?

thanks,
->HS

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