

Resources for Project UMFPACK

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Abstract

Step-by-step instructions on installing UMFPACK on a MAC are provided for <https://userpages.umbc.edu/~rostantia/cbook/umfpack.html>.

1 Instructions on installing UMFPACK on a MAC

1.1 Install SuiteSparse_UMFPACK using Macports

```
% sudo port install SuiteSparse_UMFPACK
```

Say 'Yes' to install the dependencies listed below.

```
tulinkaman@montblanc umfpack % sudo port install SuiteSparse_UMFPACK
Warning: port definitions are more than two weeks old, consider updating them by running 'port selfupdate'
---> Computing dependencies for SuiteSparse_UMFPACK
The following dependencies will be installed:
SuiteSparse_AMD
SuiteSparse_CAMD
SuiteSparse_CCOLAMD
SuiteSparse_CHOLMOD
SuiteSparse_COLAMD
SuiteSparse_config
metis
Continue? [Y/n]: y
---> Fetching archive for SuiteSparse_config
...
...
...
---> Installing SuiteSparse_UMFPACK @5.7.9_0+accelerate
---> Activating SuiteSparse_UMFPACK @5.7.9_0+accelerate
---> Cleaning SuiteSparse_UMFPACK
---> Scanning binaries for linking errors
---> No broken files found.
---> No broken ports found.
```

1.2 Provide the path to the UMFPACK headers and libs

The header files and libs that come with UMFPACK are placed into `/opt/local/include` and `/opt/local/lib`. You should tell your compiler to use the include path as an argument (see `CFLAGS` in Listing 1) and include `umfpack.h` in your programs.

```
#include <umfpack.h>
```

Listing 1: Makefile

```
tulinkaman@montblanc umfpack % cat Makefile
CFLAGS = -Wall -pedantic -std=c99 -O2 -I/opt/local/include
LIBS = -L/opt/local/lib -lumfpack
ALL = umfpack-demo1 umfpack-demo2 umfpack-demo3
all: $(ALL)

umfpack-demo1: xmalloc.o sparse.o umfpack-demo1.o
    $(CC) $^ $(LIBS) -o $@

umfpack-demo2: xmalloc.o sparse.o umfpack-demo2.o
    $(CC) $^ $(LIBS) -o $@

umfpack-demo3: xmalloc.o umfpack-demo3.o
    $(CC) $^ $(LIBS) -o $@

clean:
    rm -f *.o $(ALL)

sparse.o: sparse.c sparse.h array.h xmalloc.h
umfpack-demo1.o: umfpack-demo1.c sparse.h array.h xmalloc.h
umfpack-demo2.o: umfpack-demo2.c sparse.h array.h xmalloc.h
umfpack-demo3.o: umfpack-demo3.c array.h xmalloc.h
xmalloc.o: xmalloc.c xmalloc.h
```
