

PCL 库运行时(core dumped)

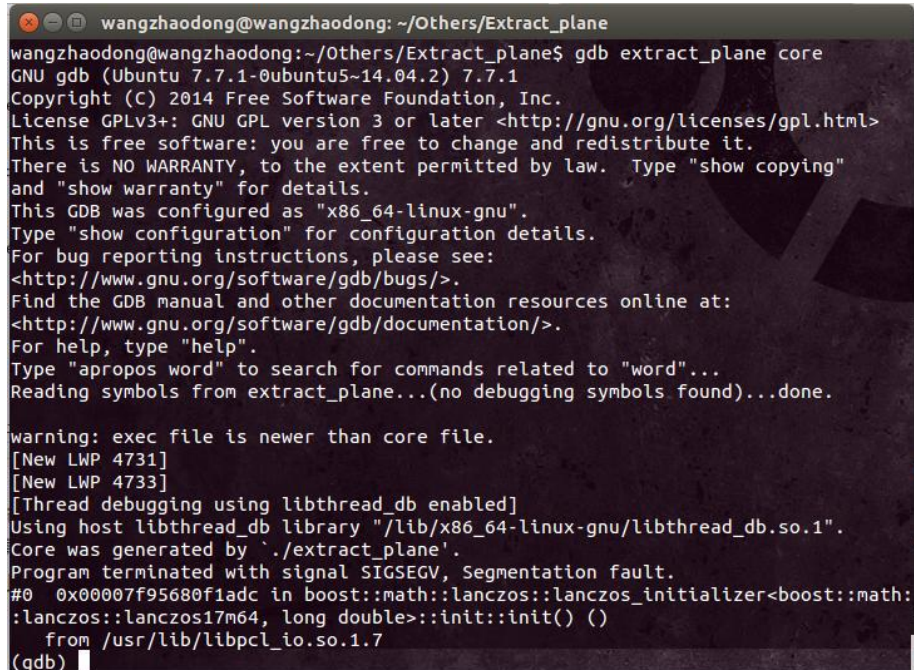
使用自己的 Makefile 编译 pcl 程序时，编译链接都成功了，但程序运行时，始终会出现：

Segmentation fault (core dumped)

这是一开始的 Makefile 文件：

```
1 #OPENCV
2 INCLUDE_OPENCV = $(shell pkg-config --cflags opencv)
3 LIBDIR_OPENCV = $(shell pkg-config --libs opencv)
4
5 #eigen3
6 INCLUDE_EIGEN = -I /usr/include/eigen3
7
8 #PCL
9 INCLUDE_PCL = -I /usr/include/pcl-1.7
10 LIBDIR_PCL = -lpcl_common -lpcl_octree -lpcl_io -lpcl_common -lpcl_octree
11
12 #BOOST
13 LIBDIR_BOOST = -lboost_thread -lboost_date_time -lboost_iostreams -lboost_serialization -lboost_system -lboost_filesystem
14
15 #OPENNI
16 INCLUDE_OPENNI = -I /usr/include/ni
17 LIBDIR_OPENNI = -lOpenNI
18
19 #VTK
20 INCLUDE_VTK = -I/usr/include/vtk-5.8
21 LIBDIR_VTK = /usr/lib/libvtkViews.so.5.8.0 /usr/lib/libvtkImaging.so.5.8.0 \
22 /usr/lib/libvtkWidgets.so.5.8.0 /usr/lib/libvtkHybrid.so.5.8.0 \
23 /usr/lib/libvtkParallel.so.5.8.0 /usr/lib/libvtkVolumeRendering.so.5.8.0 \
24 /usr/lib/libvtkRendering.so.5.8.0 /usr/lib/libvtkGraphics.so.5.8.0 \
25 /usr/lib/libvtkImaging.so.5.8.0 /usr/lib/libvtkIO.so.5.8.0 \
26 /usr/lib/libvtkFiltering.so.5.8.0 /usr/lib/libvtkCommon.so.5.8.0 \
27 /usr/lib/libvtksys.so.5.8.0
28
29 #G2O
30 INCLUDE_G2O = -I /usr/local/include/g2o
31 LIBDIR_G2O = /usr/local/lib/libg2o_core.so /usr/local/lib/libg2o_types_sba.so \
32 /usr/local/lib/libg2o_solver_csparses.so /usr/local/lib/libg2o_csparses_extension.so \
33 /usr/local/lib/libg2o_stuff.so
34
35 all:joinMap
36
37 joinMap:joinMap.o
38 g++ -std=c++11 -Wno-deprecated -o joinMap joinMap.o $(LIBDIR_PCL) $(LIBDIR_OPENCV) $(LIBDIR_BOOST) $(LIBDIR_OPENNI) $(LIBDIR_VTK) $(LIBDIR_G2O)
39
40 joinMap.o:joinMap.cpp
41 g++ -std=c++11 -Wno-deprecated -c joinMap.cpp $(INCLUDE_OPENCV) $(INCLUDE_EIGEN) $(INCLUDE_PCL) $(INCLUDE_VTK) $(INCLUDE_OPENNI) $(INCLUDE_G2O)
42
43 clean:
44 rm -f *.o joinMap
```

通过用 gdb 查错，查看 core 文件，显示如下问题：



```
wangzhaodong@wangzhaodong: ~/Others/Extract_plane
wangzhaodong@wangzhaodong:~/Others/Extract_plane$ gdb extract_plane core
GNU gdb (Ubuntu 7.7.1-0ubuntu5~14.04.2) 7.7.1
Copyright (C) 2014 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later <http://gnu.org/licenses/gpl.html>
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law. Type "show copying"
and "show warranty" for details.
This GDB was configured as "x86_64-linux-gnu".
Type "show configuration" for configuration details.
For bug reporting instructions, please see:
<http://www.gnu.org/software/gdb/bugs/>.
Find the GDB manual and other documentation resources online at:
<http://www.gnu.org/software/gdb/documentation/>.
For help, type "help".
Type "apropos word" to search for commands related to "word"...
Reading symbols from extract_plane...(no debugging symbols found)...done.

warning: exec file is newer than core file.
[New LWP 4731]
[New LWP 4733]
[Thread debugging using libthread_db enabled]
Using host libthread_db library "/lib/x86_64-linux-gnu/libthread_db.so.1".
Core was generated by './extract_plane'.
Program terminated with signal SIGSEGV, Segmentation fault.
#0  0x00007f95680f1adc in boost::math::lanczos::lanczos_initializer<boost::math::
:lanczos::lanczos17m64, long double>::init::init() ()
    from /usr/lib/libpcl_io.so.1.7
(gdb)
```

看这个意思应该是 pcl 库的连接有问题。百度后有人说是 c++11 与 boost 兼容的问题，但是，我在 cmake 中明明用了 c++11，而且用 cmake 编译出来的程序跑的时候也没问题啊，

```
set( CMAKE_CXX_FLAGS "-std=c++11 -O3" )
```

然后又突然发现“-O3”这个参数，会不会是这个参数的问题？结果还真是，修改后 Makefile:

```
34 all:joinMap
35
36 joinMap:joinMap.o
37 g++ -std=c++11 -O3 -Wno-deprecated -o joinMap joinMap.o $(LIBDIR_FCL) $(LIBDIR_OPENCV) $(LIBDIR_BOOST) $(LIBDIR_OPENNI) $(LIBDIR_VTK) $(LIBDIR_G2O)
38 joinMap.o:joinMap.cpp
39 g++ -std=c++11 -O3 -Wno-deprecated -c joinMap.cpp $(INCLUDE_OPENCV) $(INCLUDE_EIGEN) $(INCLUDE_FCL) $(INCLUDE_VTK) $(INCLUDE_OPENNI) $(INCLUDE_G2O)
40 clean:
41 rm -f *.o joinMap
```

坑爹的是，这个参数中间那一位是大写的英文字母 O，之前一直写的数字 0，结果一直出错。