

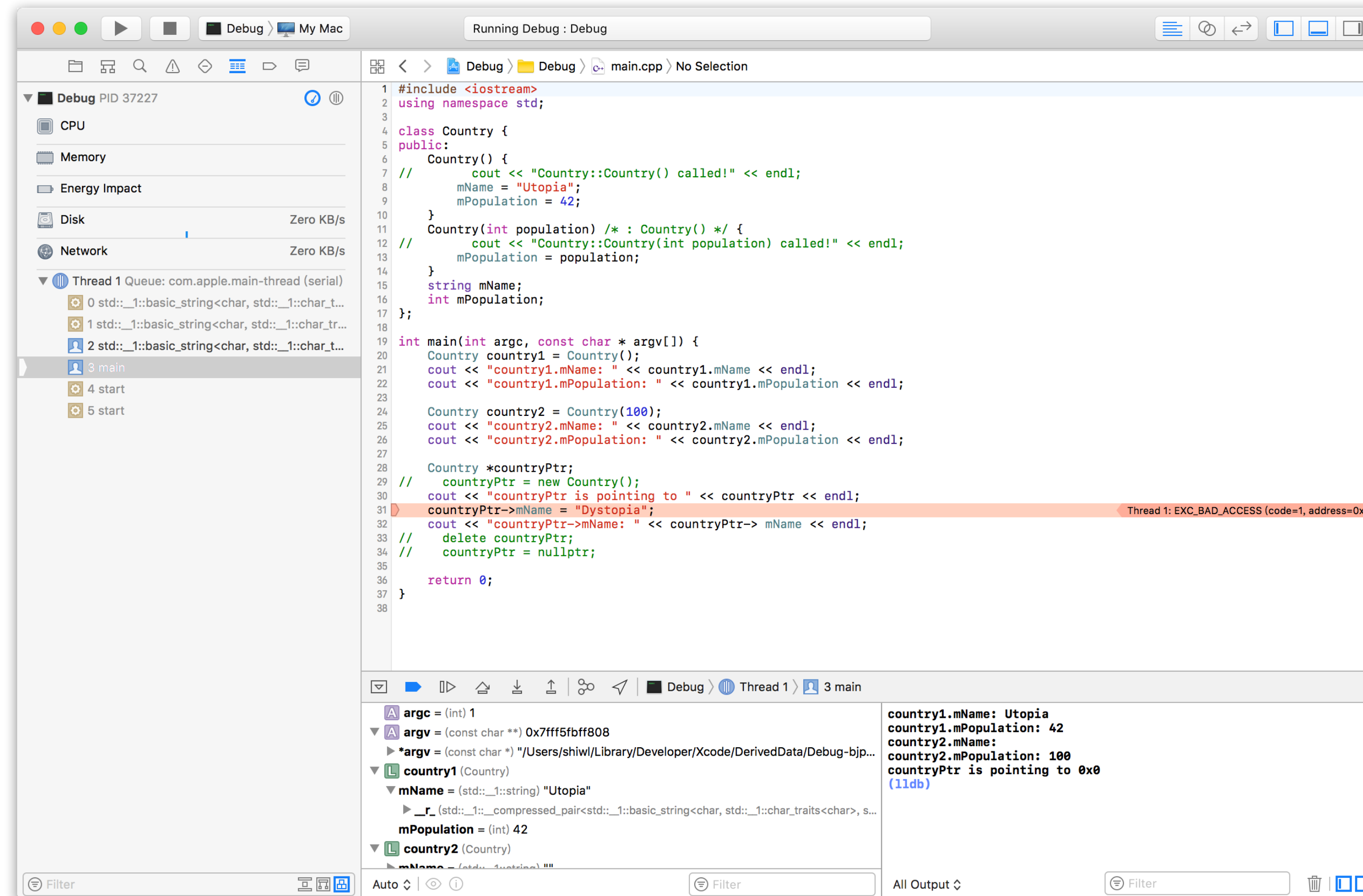
Currents: Coding with Cinder

Week 7: Input & Output / Linking Against Libraries & CinderBlocks

Instructors

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2 common ways to debug a program

- Output debug information to console;
- Using the debugger to step through the code.

```
# preprocess:
clang++ main.cpp -E

# assemble:
clang++ main.cpp -S

# compile:
clang++ -c main.cpp
clang++ -c function.cpp

# link:
clang++ main.o function.o -o main

# run:
./main
```

Building a program

When you use an IDE to write your program, your IDE does all these for you!

```
# compile library:
clang++ -c function.cpp

# archive library:
ar rc libfunction.a function.o

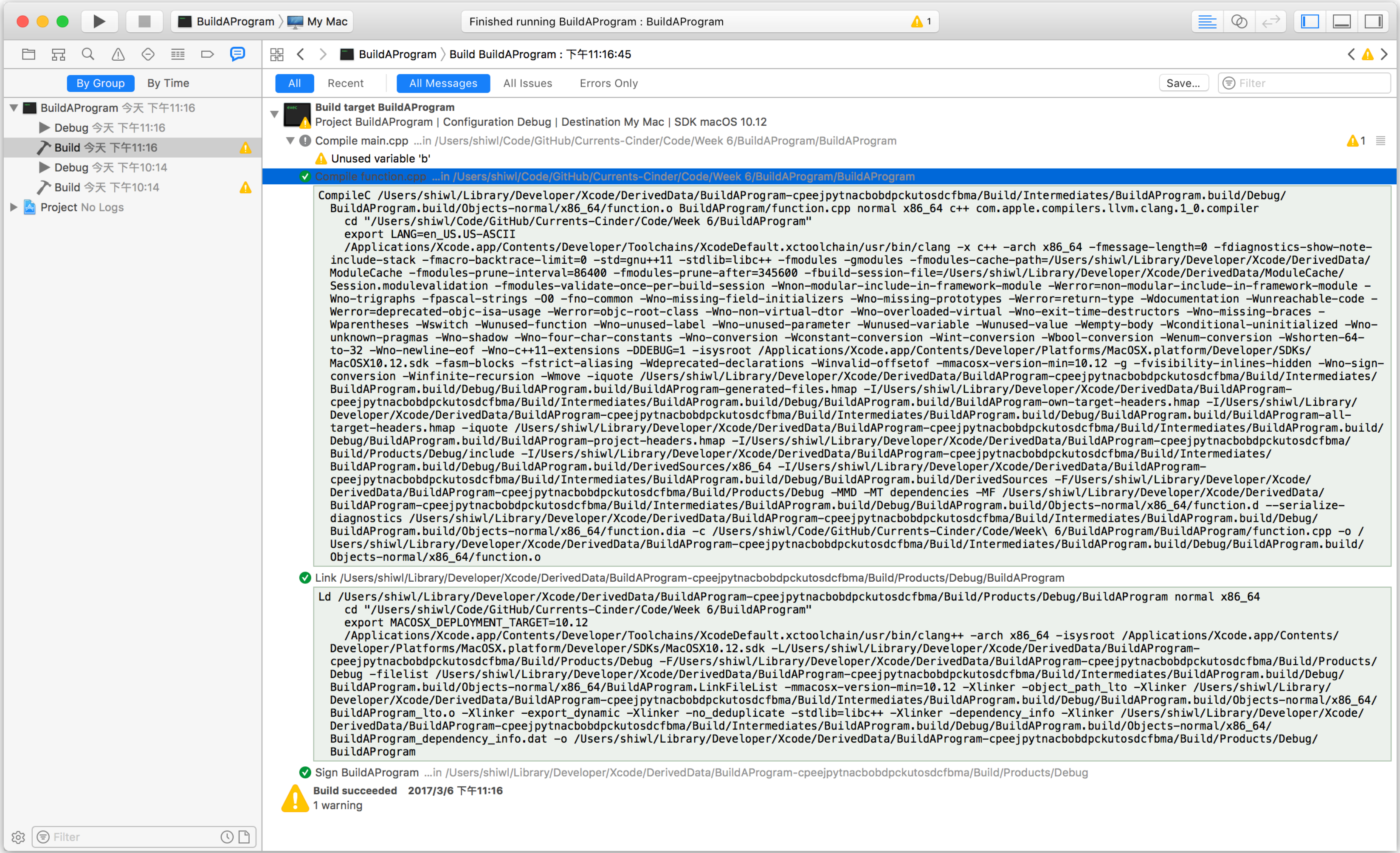
# compile application:
clang++ -c main.cpp

# link application against library:
clang++ main.o -o main -L . -l function

# run:
./main
```

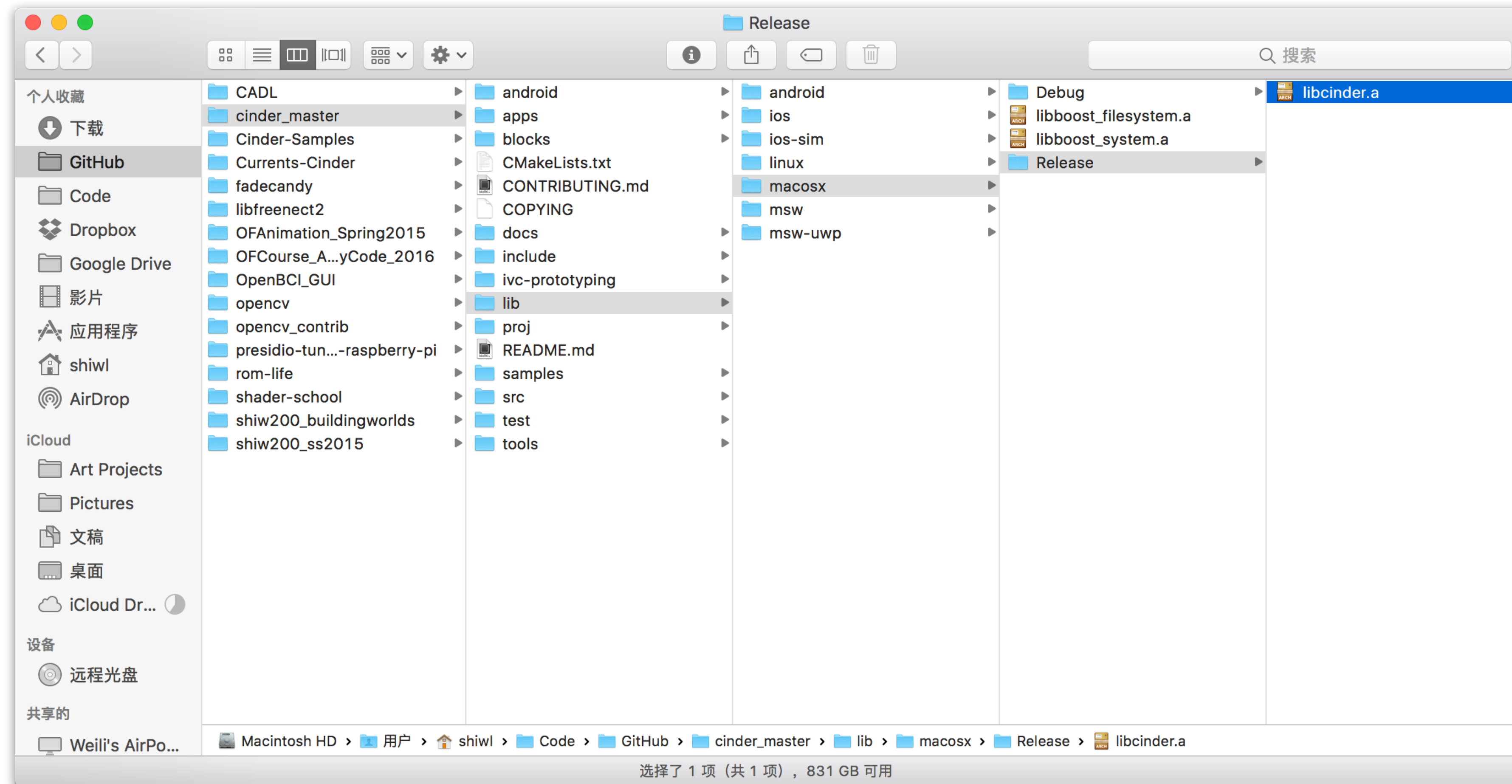
Linking your code against a library

When you use an IDE to write your program, your IDE does all these for you!



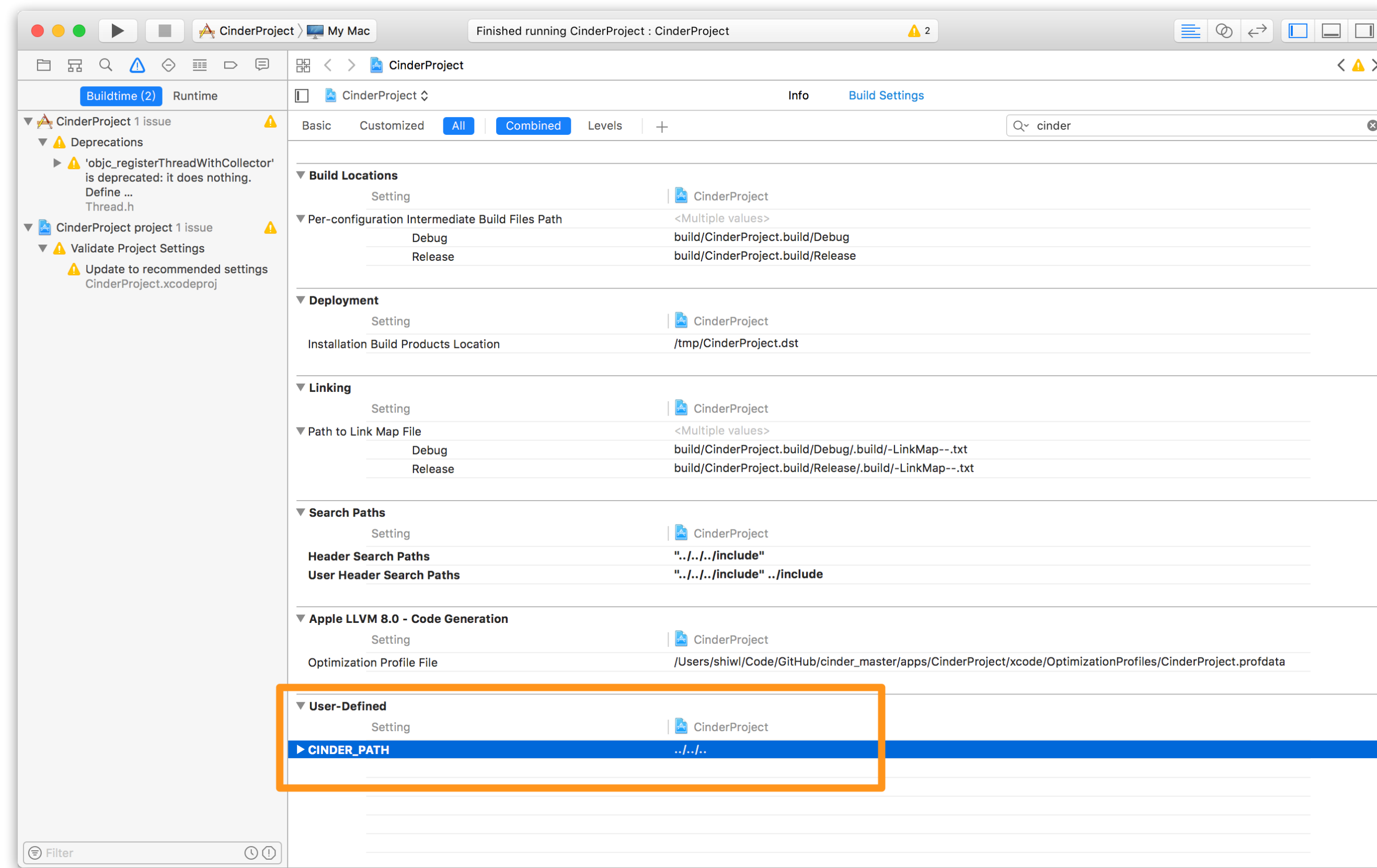
When you use an IDE....

It does all these compiling and linking jobs for you under the hood. Sweet!



Cinder is also a library

Remember that before you use Cinder for the first time, you had to build it? It was built into a library.



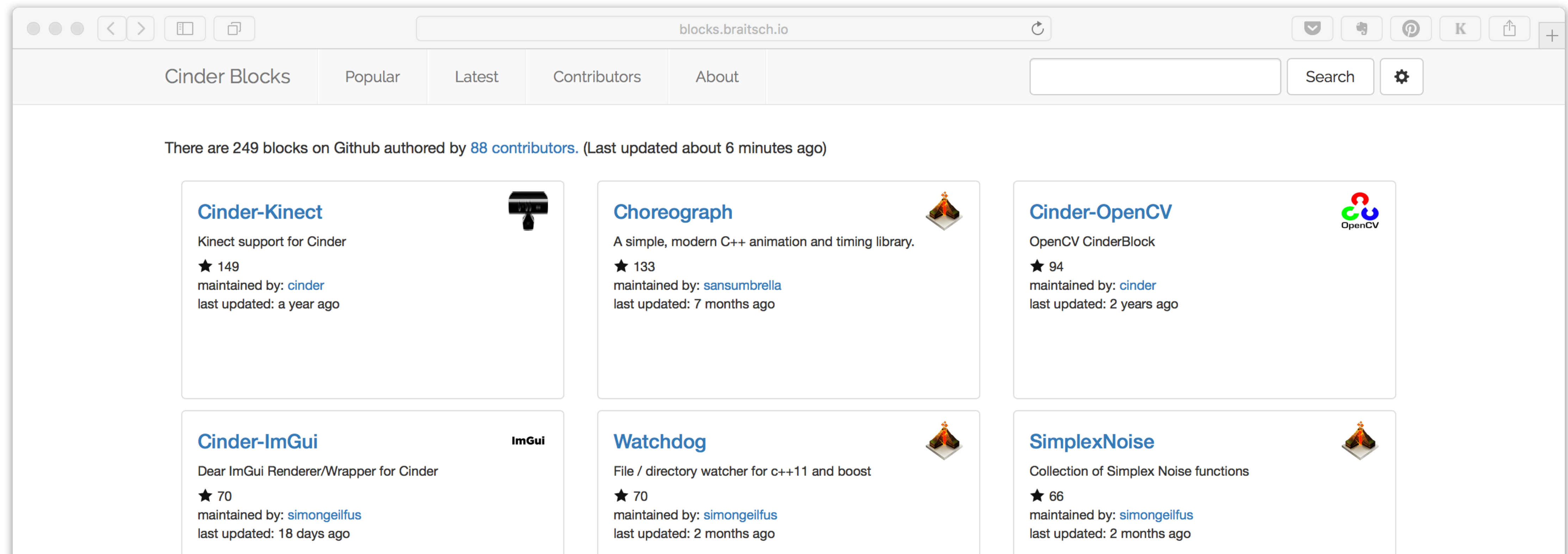
Linking your application against Cinder

If you use TinderBox to create your Cinder project, it will configure your IDE for you. However, if you moved your project to another path, you'll have to fix dependency issues.

CinderBlocks

Occasionally, you'll need libraries which provides functionalities which Cinder doesn't have. You can of course link your project against these libraries by yourself. The good news is, the Cinder community also provides prepackaged collection of code and libraries as CinderBlocks.

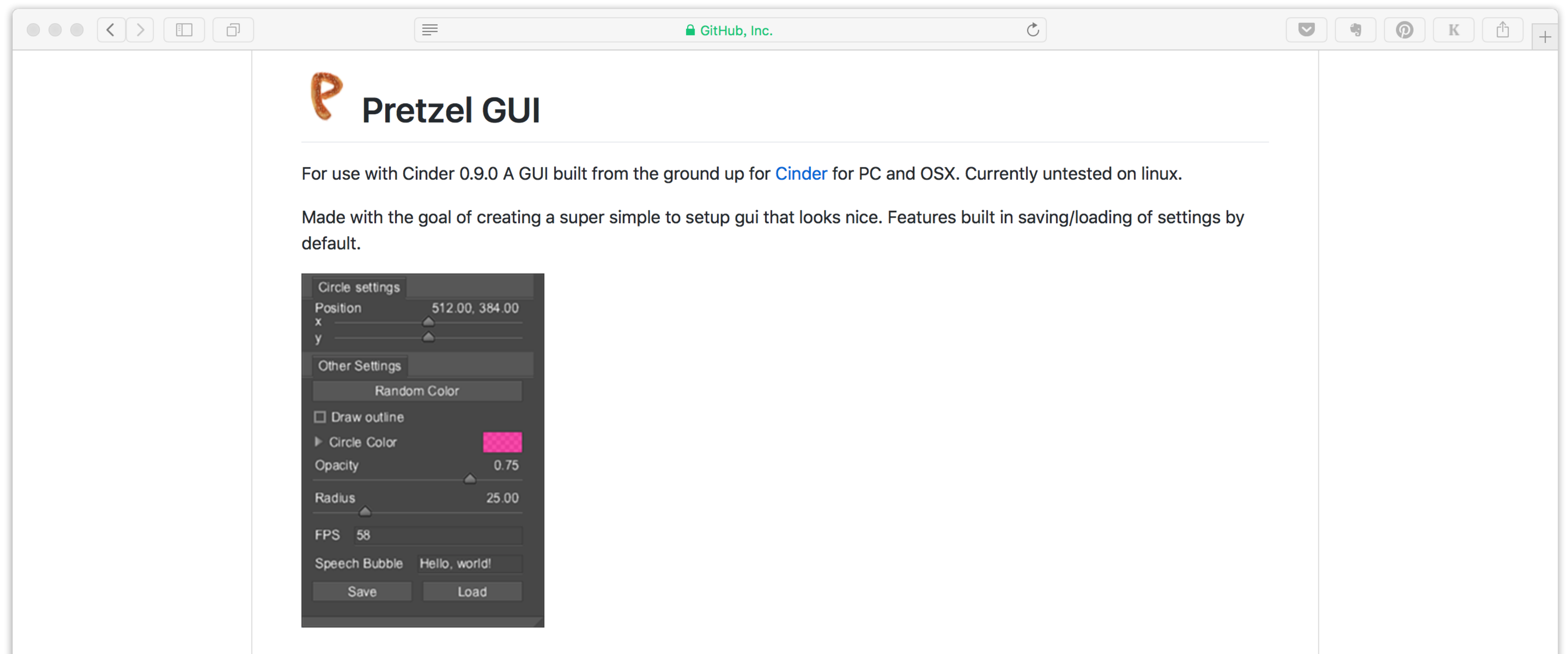
<http://blocks.braitsch.io>



Pretzel GUI

“A functional and good looking GUI for Cinder”

<https://github.com/cwhitney/PretzelGui>



OSC messages

Open Sound Control (OSC) is a protocol for networking sound synthesizers, computers, and other multimedia devices for purposes such as musical performance or show control. OSC's advantages include interoperability, accuracy, flexibility and enhanced organization and documentation.

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Supported programs.

Almost all the creative frameworks(openFrameworks, Cinder, MAX etc.) support OSC.

You don't need a cord.

cinder-OSC is actually a block for Cinder.

Ported from openFrameworks by the Barbarian Group.

```
#include "OscListener.h"
```

```
#include "OscSender.h"
```

To use functions from the OSC block.

OSC::Message

Is the way to compose a message to send.

osc::Sender & osc::Receiver

Handling the communication.

```
message.setAddress("/cinder/osc/1");
```

Address is a filter, which you can use to filter out messages

message.addFloatArg(positionX);

Add an argument to your message. Define type with function.

```
sender.sendMessage(message);
```

Send your message.

Homework

- Fix dependency problems in all your Cinder projects in your homework repo, so that they can build without problem when the repo is cloned into your Cinder root directory!
- Create a simple game with your partner. It has to run on different computers via internet.
- Upload all your homework for week 1-7 to your repo before spring break (March 20th).
- One Slack, send both Luobin and Weili your repo link directly (not in the channel!).
- We will grade you by then!