
Getting Started with C++ on Mac OS X

Colorado Mesa University

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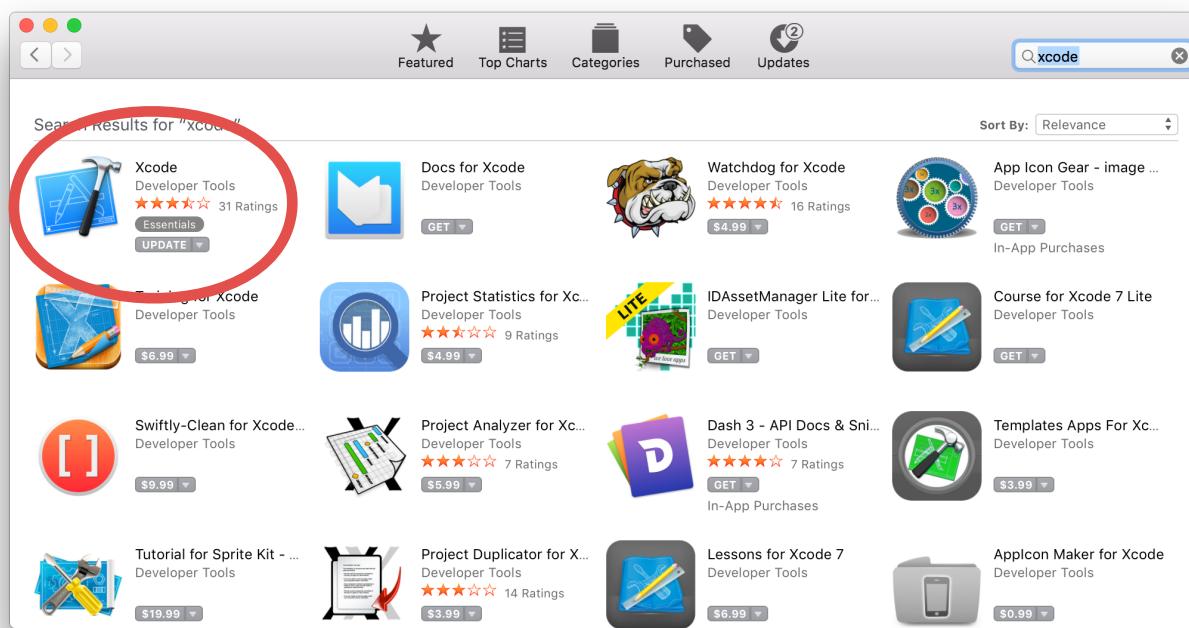
Introduction

You have several options on Mac OS X for developing C++ applications, but as a new student you should stick with what you get for free from Apple: Xcode.

Xcode is a full featured IDE for Objective-C, C, iOS, macOS and C++ development, it includes an iPhone/iPad simulator, debugger and built in version control.

Installing Xcode:

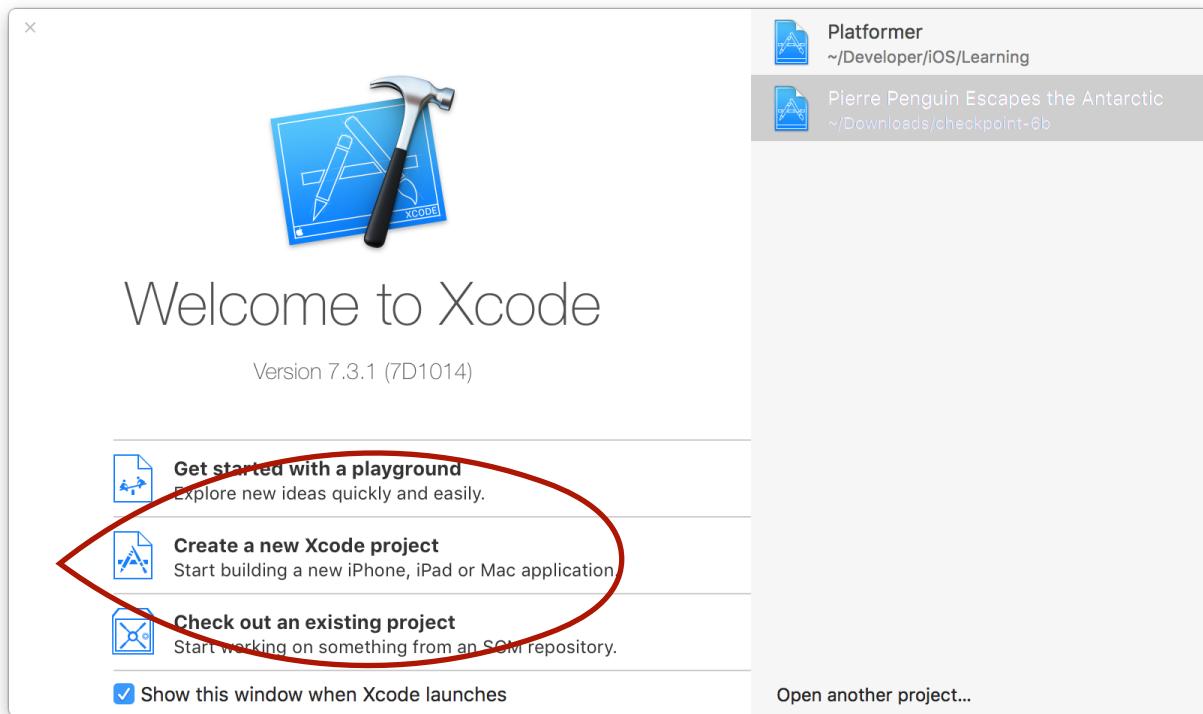
Open the App Store and search for “Xcode” and click “Install”



The download and install can take an hour or more so get comfy, read your textbook. The latest version of Xcode generally requires you have the latest version of OS X installed as well, so if you are behind you'll need to update OS X as well.

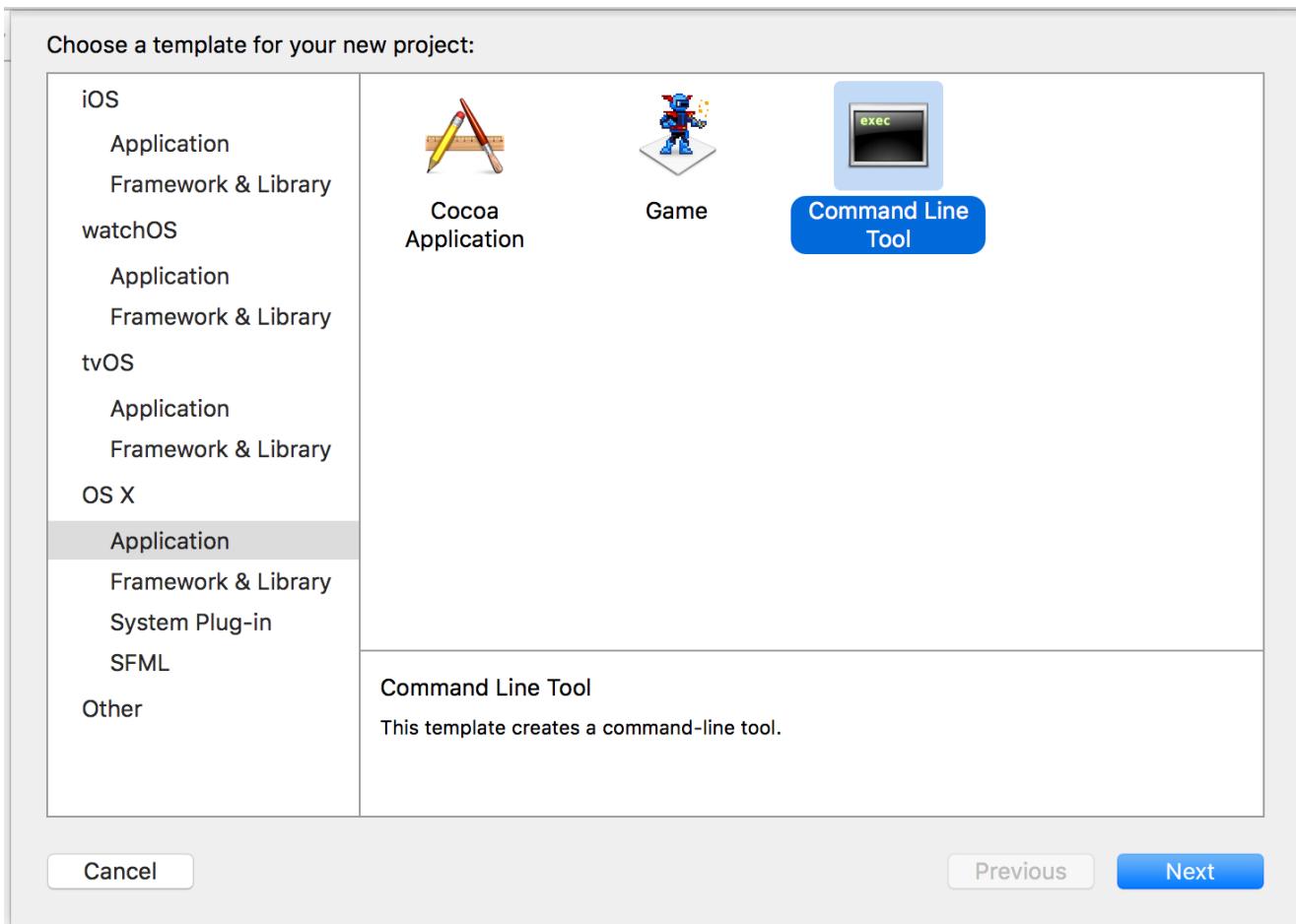
Making a Project

For the kinds of projects you will be doing in your intro classes, you will want to create and set up your Xcode projects in a particular way.



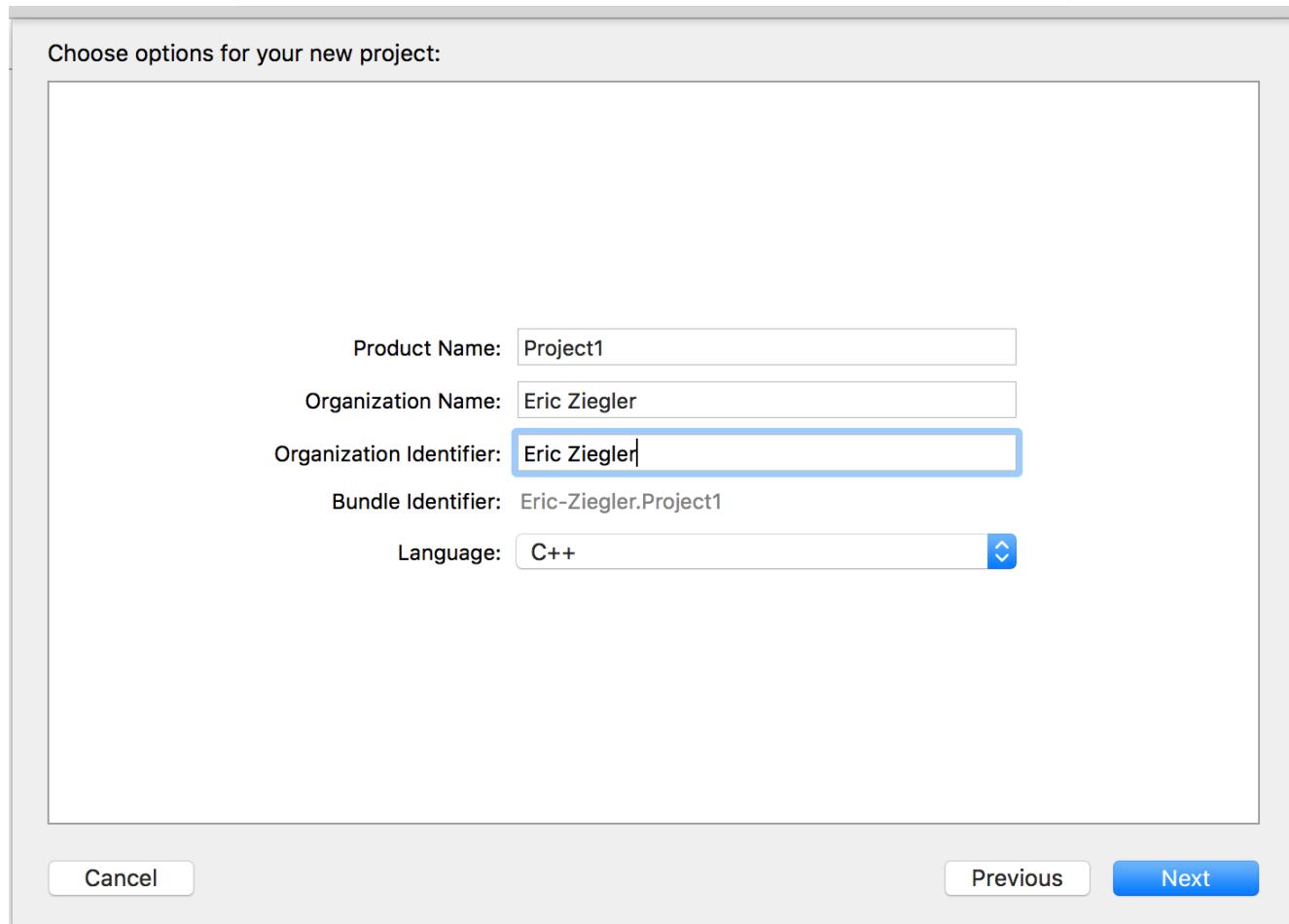
On the Xcode splash page, select “Create a new Xcode Project.”

From here Xcode will ask you to choose a project template. You will want to select OS X -> Application -> Command Line Tool and click *next*

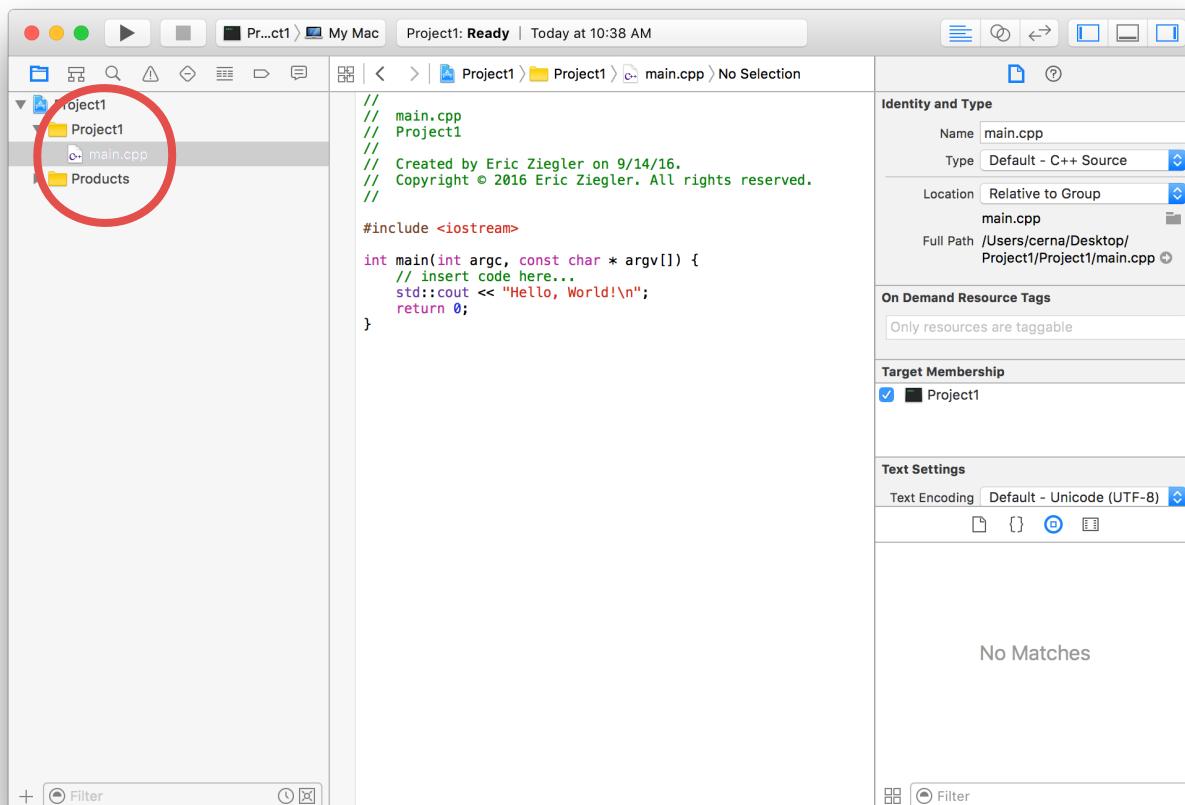


Next you will set the options for your project. Under “Product Name” enter the name of your project, “Organization Name” and “Organization Identifier” should be set to your name. These fields are used to distribute apps on the Apple App Stores, so if you ever use Xcode professionally you will want to research these fields further, but for now using your name is adequate.

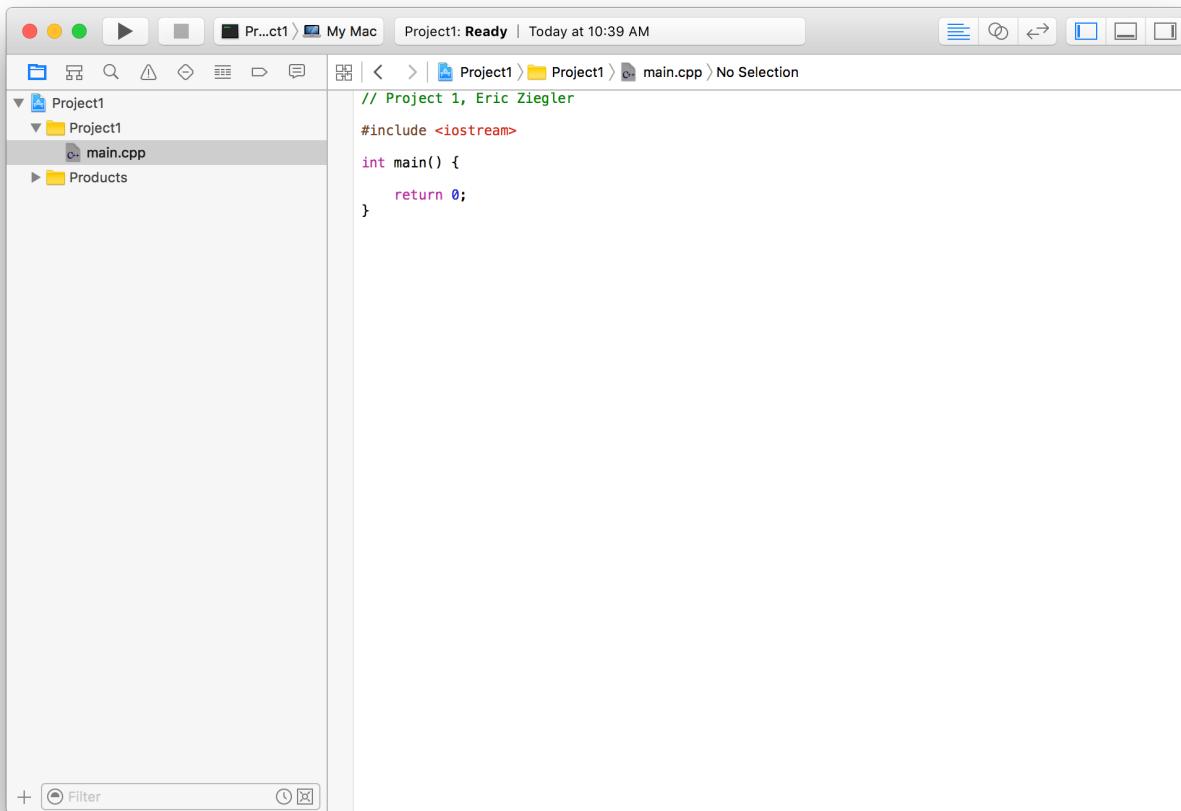
The last thing to note is the field at the bottom: Language. **Ensure that this is set to C++**. Click next to continue.



Now your project should be created. Xcode automatically makes a “main.cpp” file for you where your main C++ code should live. Feel free to rename this file to anything you want, such as “project1.cpp.” When you select the file you will see that some example code is provided for you. For your purposes, you will want to delete most of this code.



Your “main.cpp” file should look similar to the one below:



The screenshot shows a Mac OS X desktop with an Xcode window open. The window title is "Project1: Ready | Today at 10:39 AM". The left sidebar shows a project structure with "Project1" expanded, containing "Project1" and "main.cpp". "main.cpp" is selected and highlighted with a grey background. The main editor area displays the following C++ code:

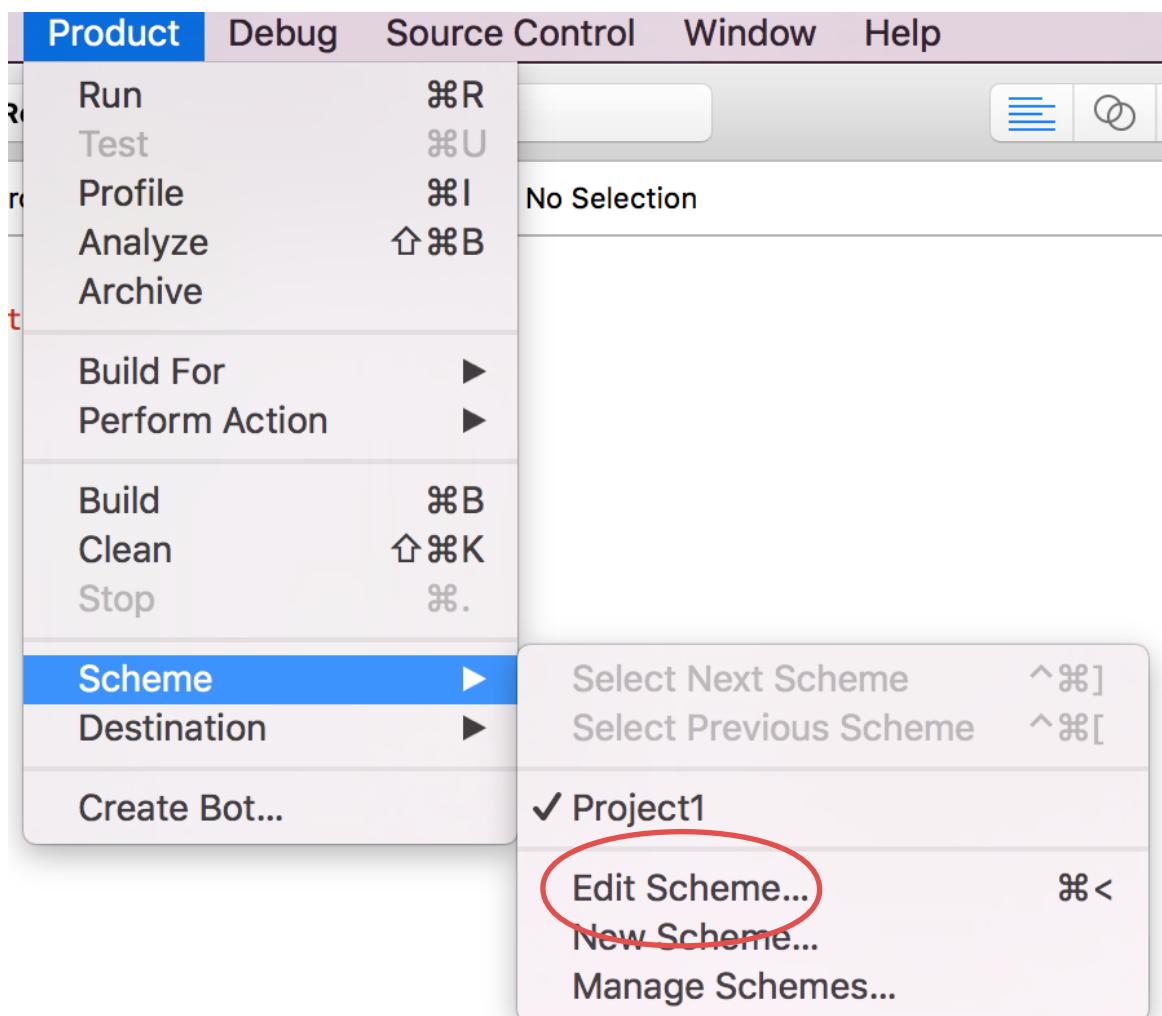
```
// Project 1, Eric Ziegler
#include <iostream>

int main() {
    return 0;
}
```

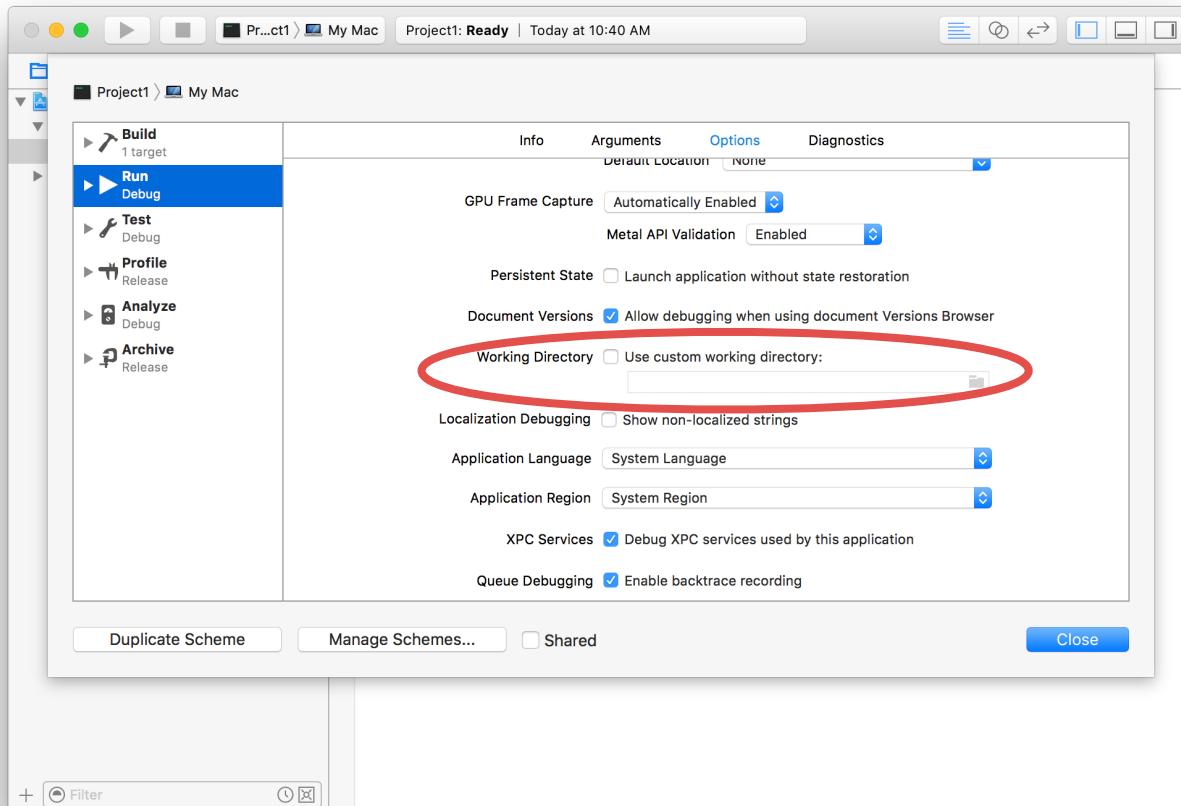
At the bottom of the Xcode interface, there is a toolbar with various icons for file operations like New, Open, Save, and Print.

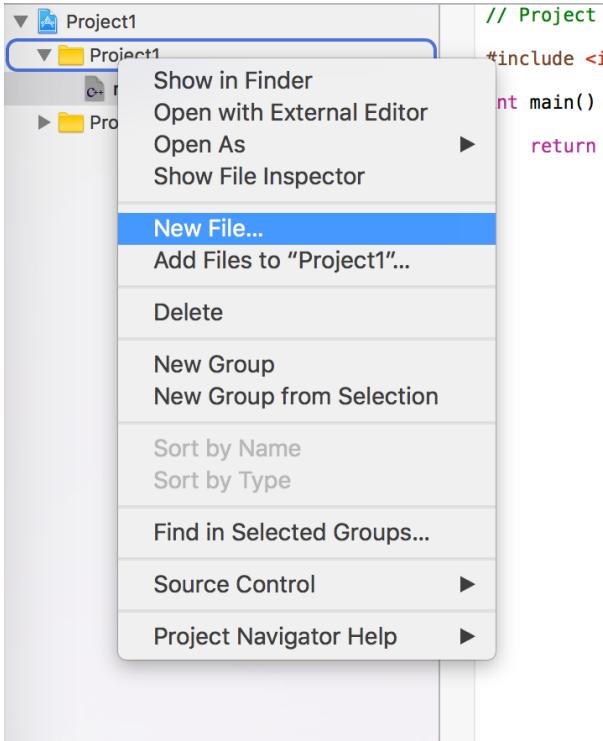
Note: On many examples you will see in class, the main function looks like “void main” but for development on a Mac, you want to use “int main” with a “return 0” at the very end of the program. This is because Mac’s operating system is a UNIX system which requires all C++ main functions be of type “int” with a return code (the 0 in this case). You are encouraged to research this topic further on your own, try searching for “void main on Mac.”

The next step is critically important, you must set the *working directory*. Navigate to *Product -> Scheme -> Edit Scheme*.



Select the “Run” target, scroll down and check the “Use custom working directory” checkbox. Next click the file icon and make double check that the *working directory* is set to where your project is saved! Hint: you will see your “main.cpp” file in this folder.





When you need to add files to the project, right click the project folder in the navigation pane on the left and select “New File” from the menu.

In your intro classes, you will mostly be dealing with text files for data input and output. To add a text file go to OS X -> Other -> Empty and give it a name.

