

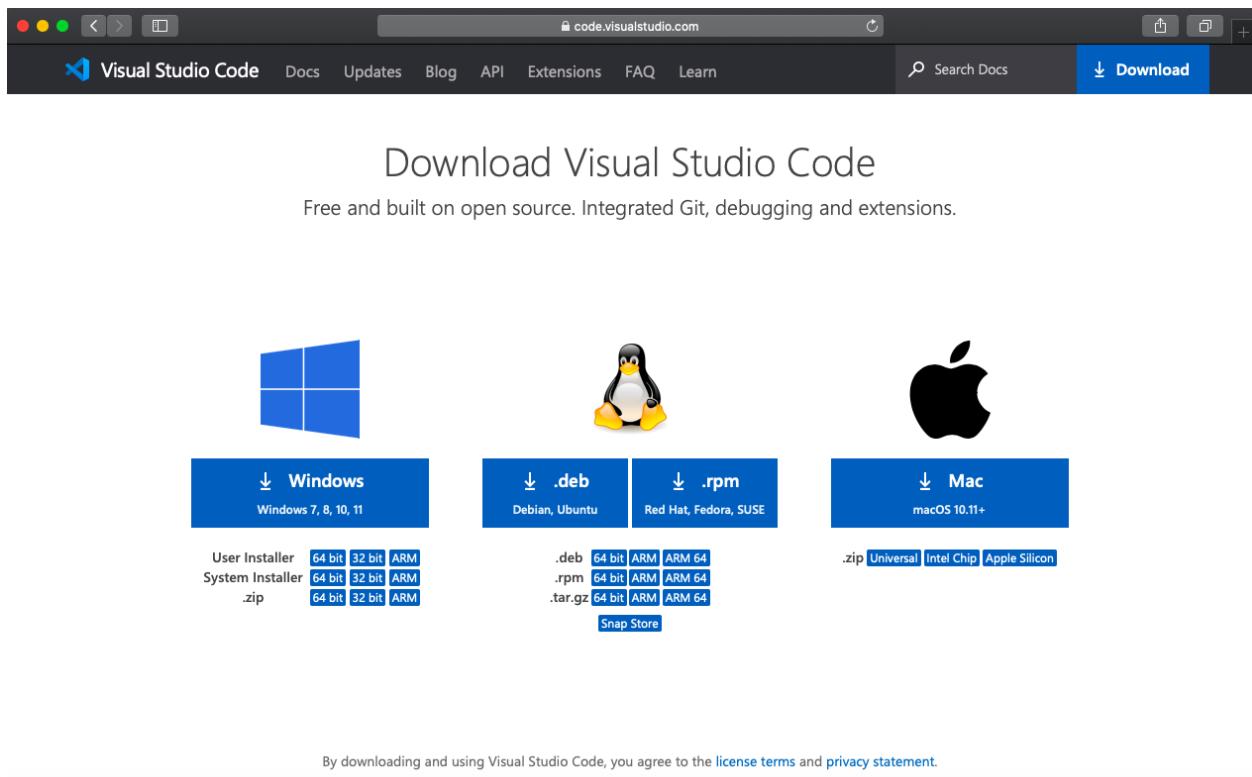
**CSCI 1300 CS1: Starting Computing**  
**Hoenigman/Naidu/Park/Ramesh - Fall 2023**  
**Visual Studio Code - MacOS**

## MacOS Installation Guide

**You will use Visual Studio Code (VS Code) to write and execute your programs locally.**

### Part 1- Install VS Code

**Step 1:** Go to VS code [download page](https://code.visualstudio.com), and download for Mac.



The screenshot shows a Mac OS X browser window with the URL `code.visualstudio.com` in the address bar. The page content is as follows:

**Download Visual Studio Code**  
Free and built on open source. Integrated Git, debugging and extensions.

**Windows** (Icon: Windows logo)  
Windows 7, 8, 10, 11  
User Installer (.exe) 64 bit, 32 bit, ARM  
System Installer (.msi) 64 bit, 32 bit, ARM  
.zip 64 bit, 32 bit, ARM

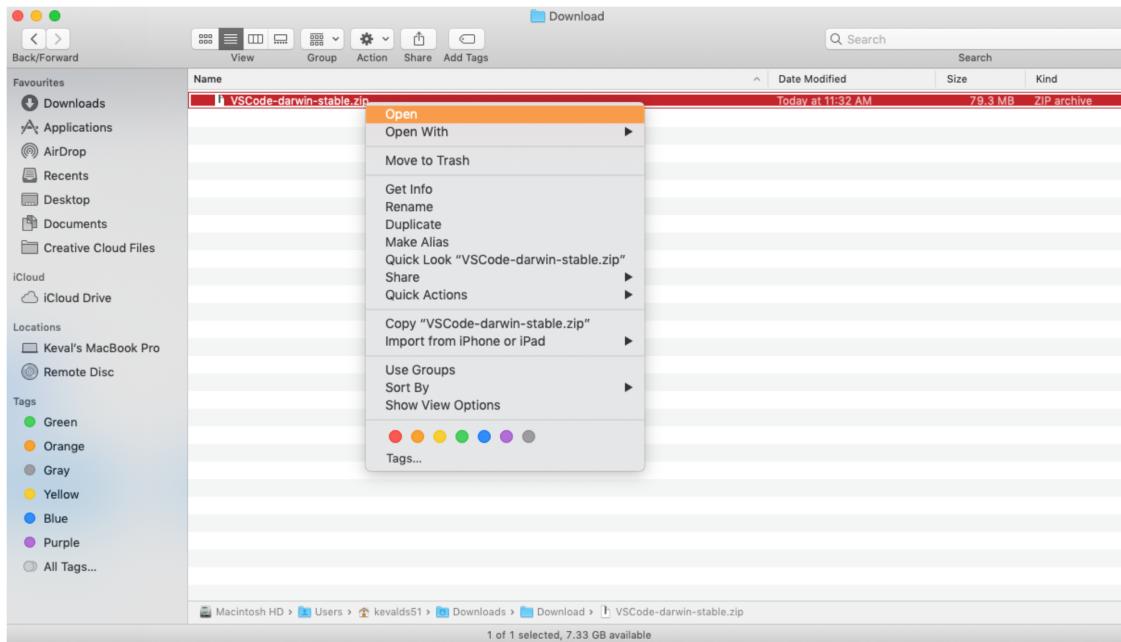
**.deb** (Icon: Tux icon)  
Debian, Ubuntu  
.deb 64 bit, ARM, ARM 64  
.rpm 64 bit, ARM, ARM 64  
.tar.gz 64 bit, ARM, ARM 64  
[Snap Store](#)

**.rpm** (Icon: Red Hat icon)  
Red Hat, Fedora, SUSE  
.deb 64 bit, ARM, ARM 64  
.rpm 64 bit, ARM, ARM 64  
.tar.gz 64 bit, ARM, ARM 64

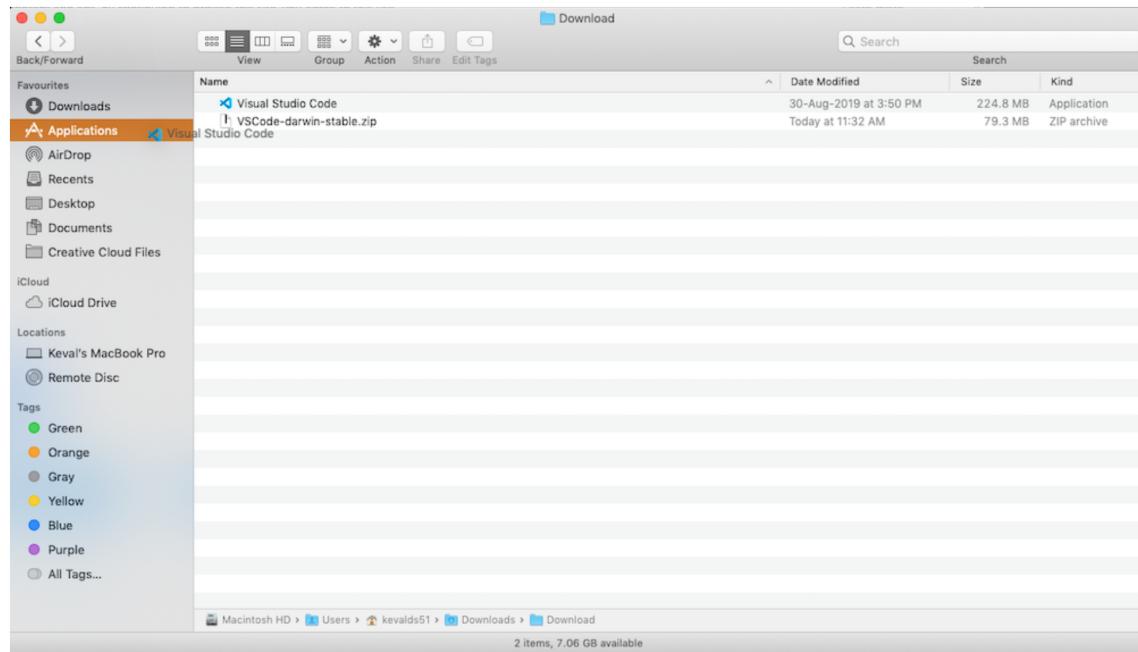
**Mac** (Icon: Apple logo)  
macOS 10.11+  
.zip Universal, Intel Chip, Apple Silicon

At the bottom of the page, there is a small note: "By downloading and using Visual Studio Code, you agree to the [license terms](#) and [privacy statement](#)".

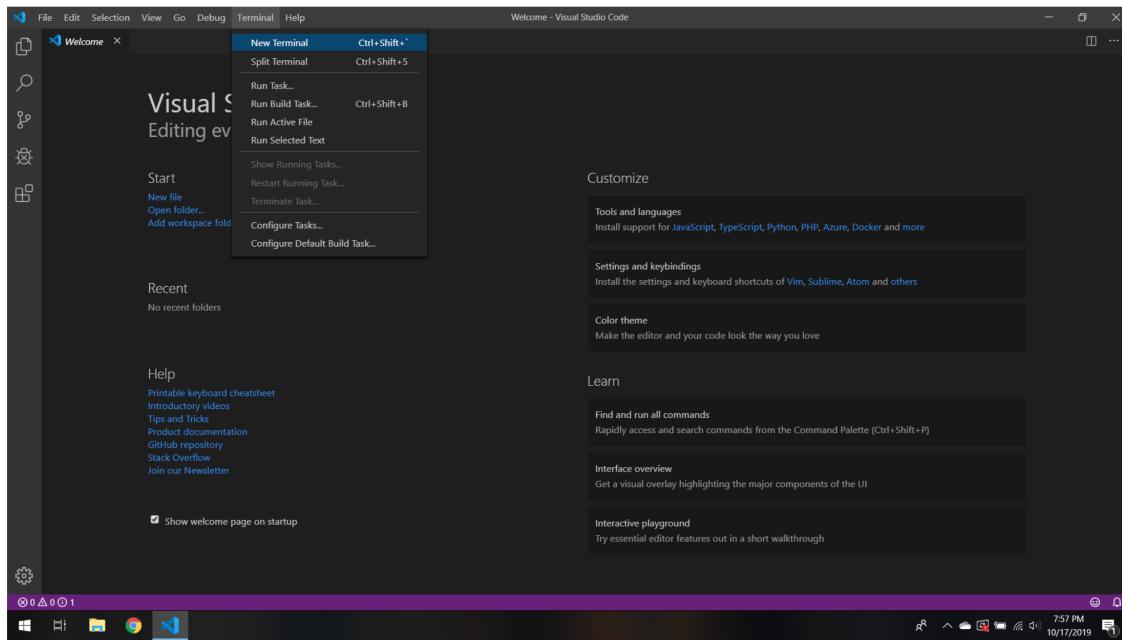
**Step 2:** After the download has finished, unzip the folder by double-clicking on it.



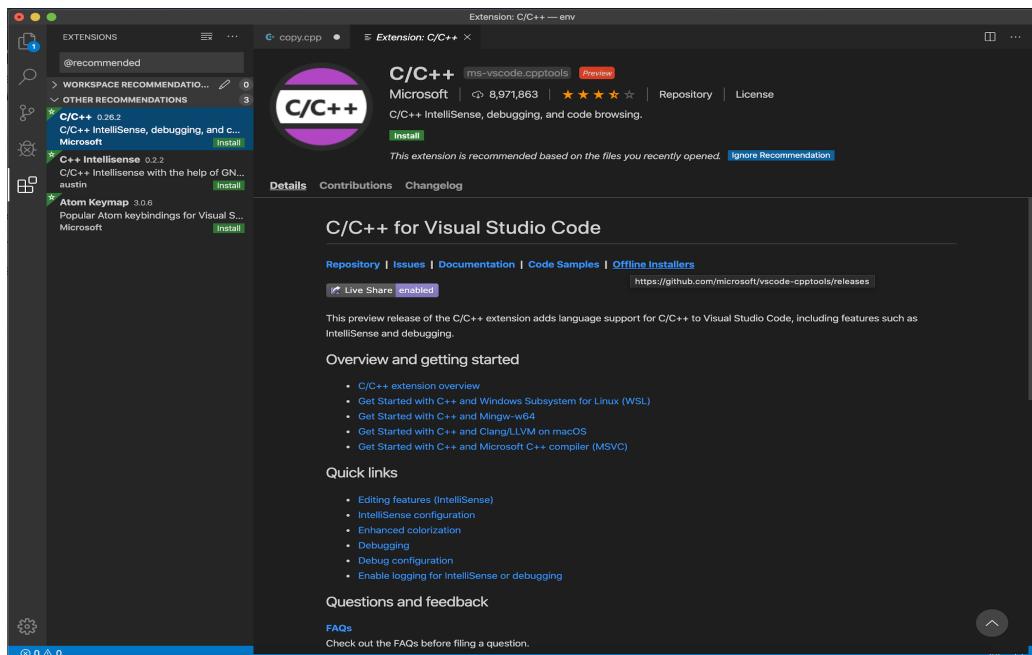
**Step 3:** Now you can see the “Visual Studio Code” application. Drag and drop this icon to the “Applications” folder of your computer.



**Step 4:** Double click on the "Visual Studio Code" icon to launch the application. (You might need to right click and select "open" if you cannot launch the program). Next, select the "New Terminal" option to open the terminal window.

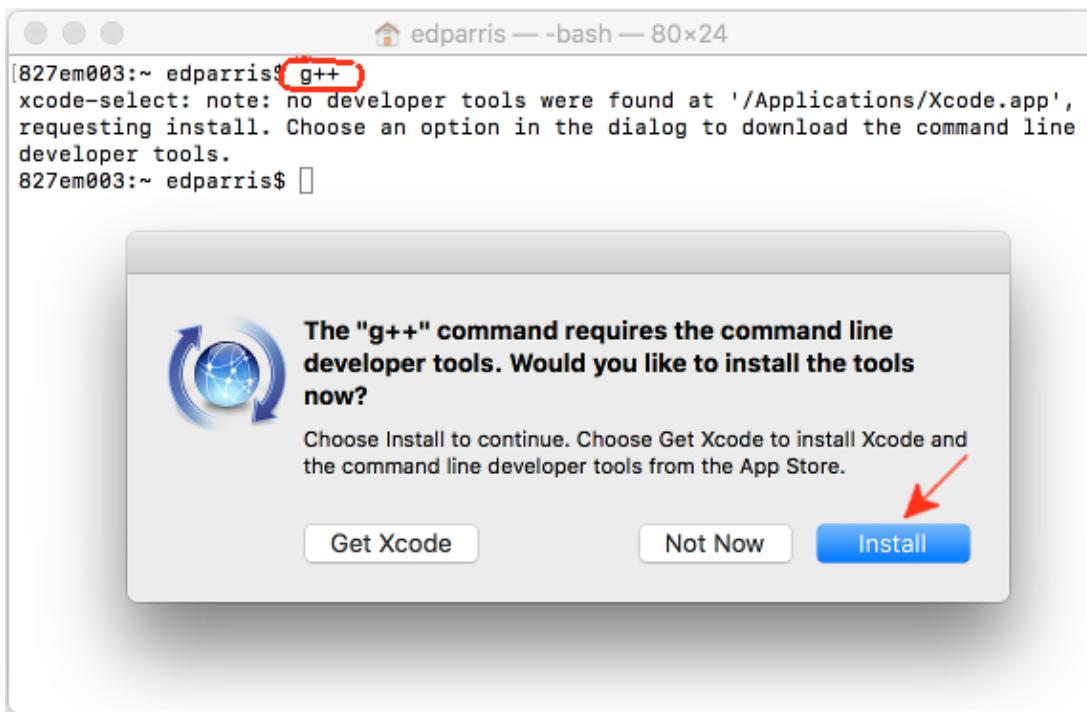


**Step 5:** Install C/C++ extension. In the toolbar on the left hand side of the screen click on the bottom icon for Extensions. Search for C/C++ and click install.



## Part 2 - Install g++

1. Open a Terminal window.  
(One way is to press ⌘ Command+Space, type **Terminal** in the search field, and press the Return key.)
2. In the Terminal window type **g++** and press the Return key. We will see an alert box like this:



3. Choose **Install** to get only the command line tools unless you want to learn Xcode. Xcode can be installed later from the App Store.

After installation, type **g++** in the Terminal, press the Return key, and verify the terminal prints the message, "no input files".

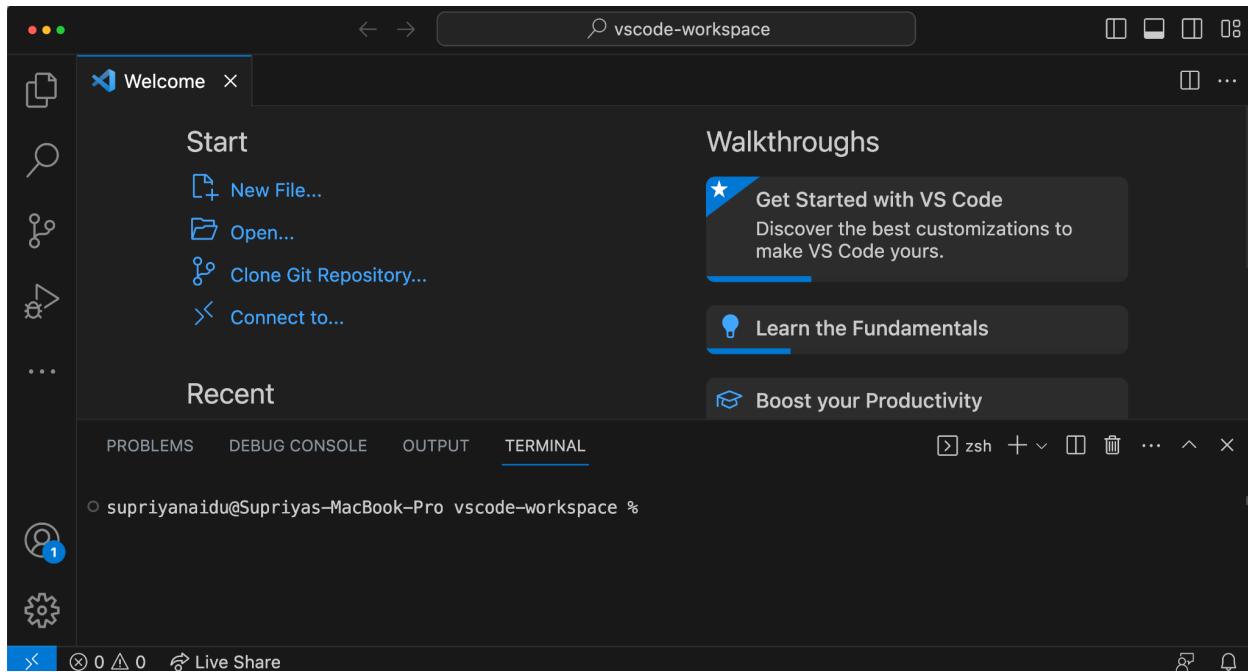
```
$ g++  
clang: error: no input files
```



Well done! Go to the section [Compiling Code In Terminal](#) to compile code on your computer.

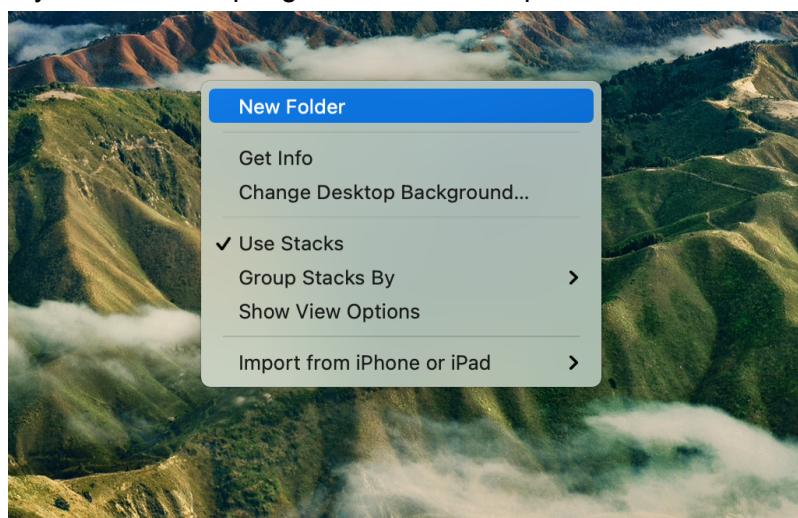
## Compiling Code In Terminal

Now we'll go through a quick example on how to compile a .cpp file and verify that there were no issues with the installation. We'll start from the Welcome Page that shows up when VSCode is opened.



VSCode allows you to open and work out of folders where you have stored your files. Before we proceed to create a test file, we'll first create a directory on the Desktop where we'll be saving our work. We will do this using the terminal.

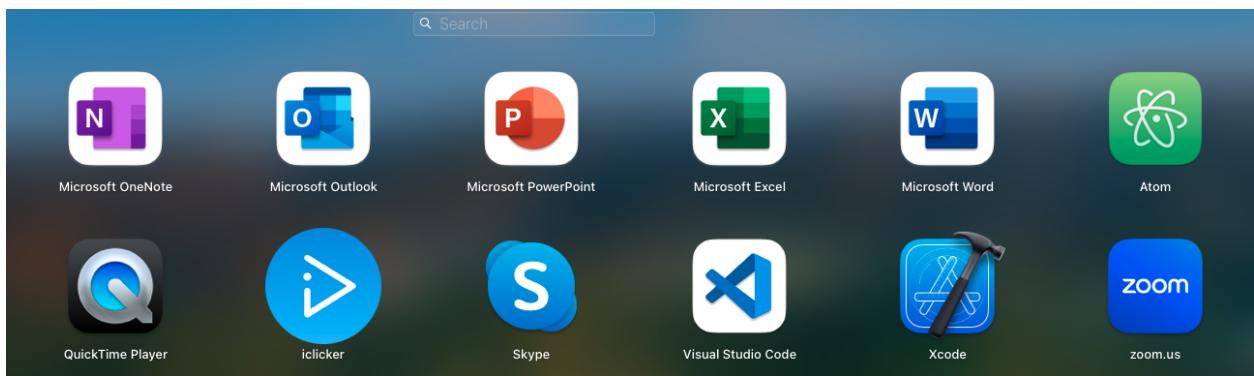
To create a directory on the desktop, right-click on desktop and select “**New Folder**”



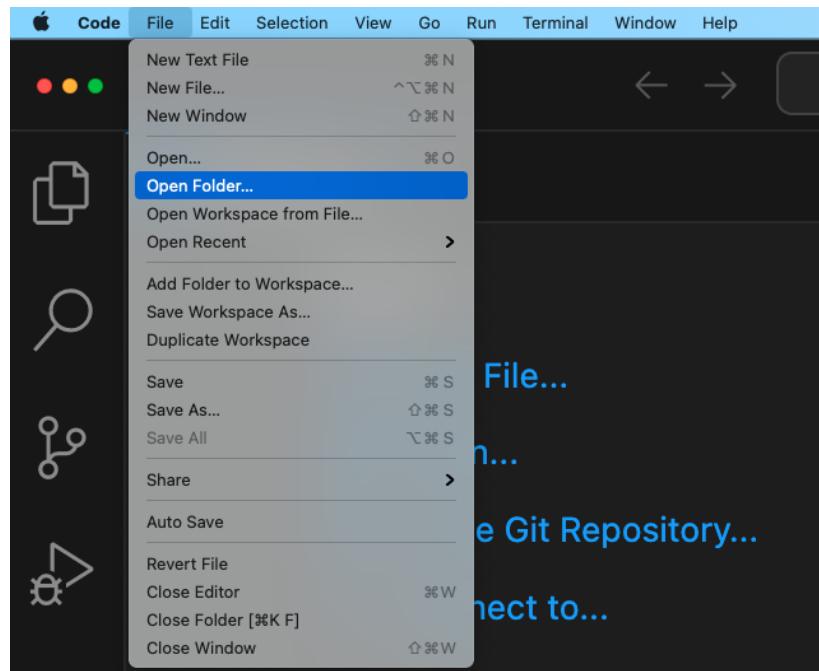
Name the folder **hmwk0**



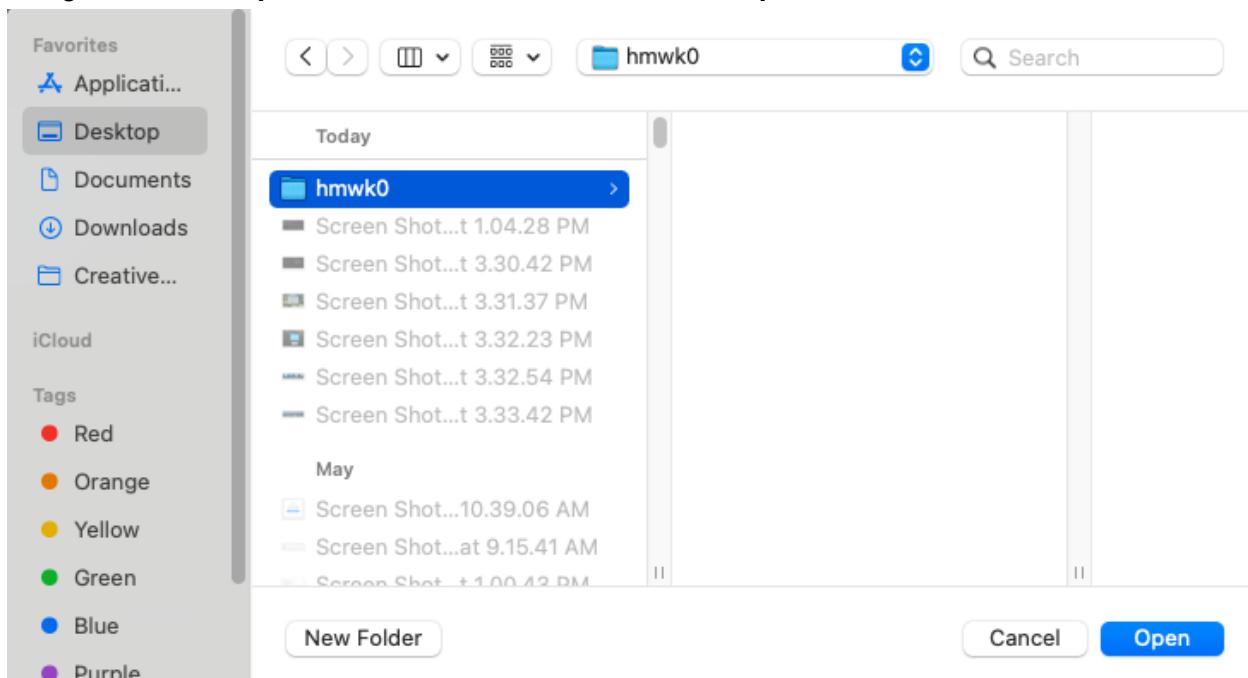
Open VS code by clicking the Launchpad icon  in the Dock. Then find and click the icon  for vscode



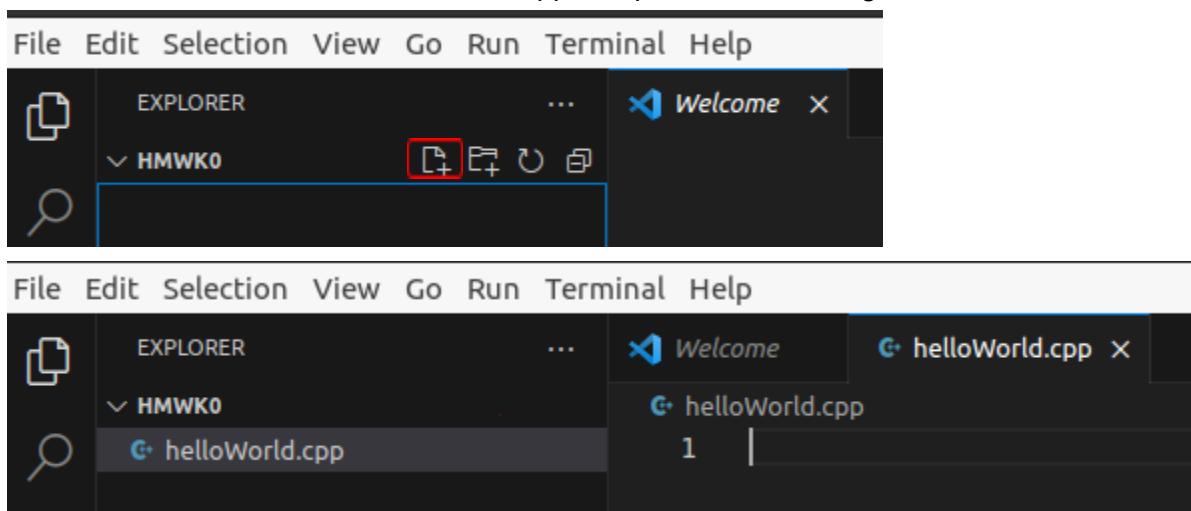
Once you open VS code, open the folder that you created via **File > Open Folder....**



Navigate to **Desktop** and select folder **hmwk0** and click **Open**



Now create a new file called **helloWorld.cpp** and paste the following code into it.



Code:

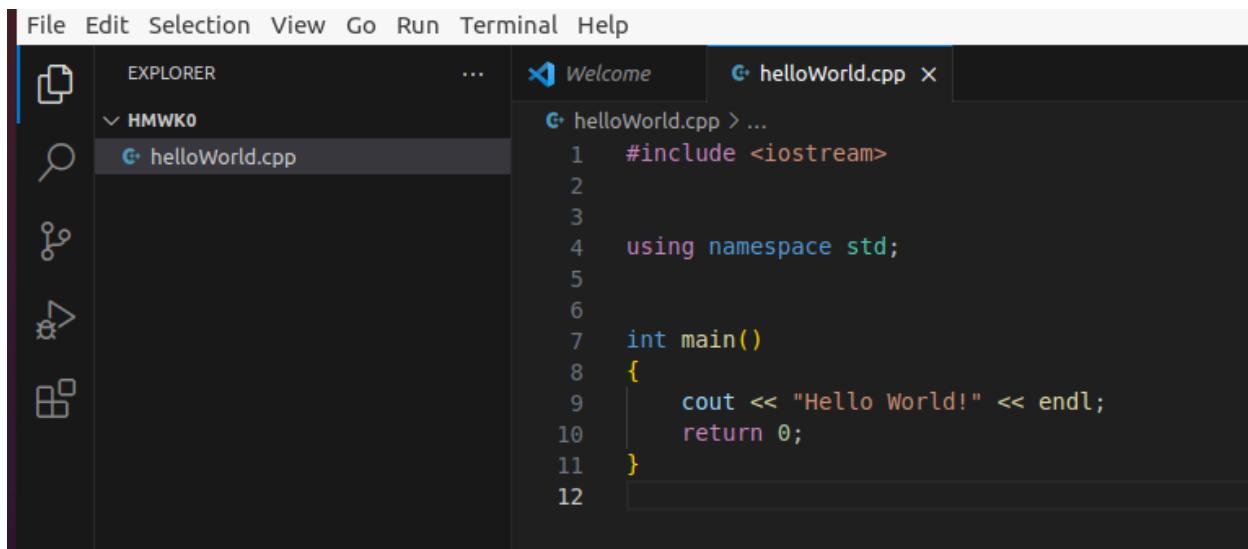
```
#include <iostream>

using namespace std;

int main()
```

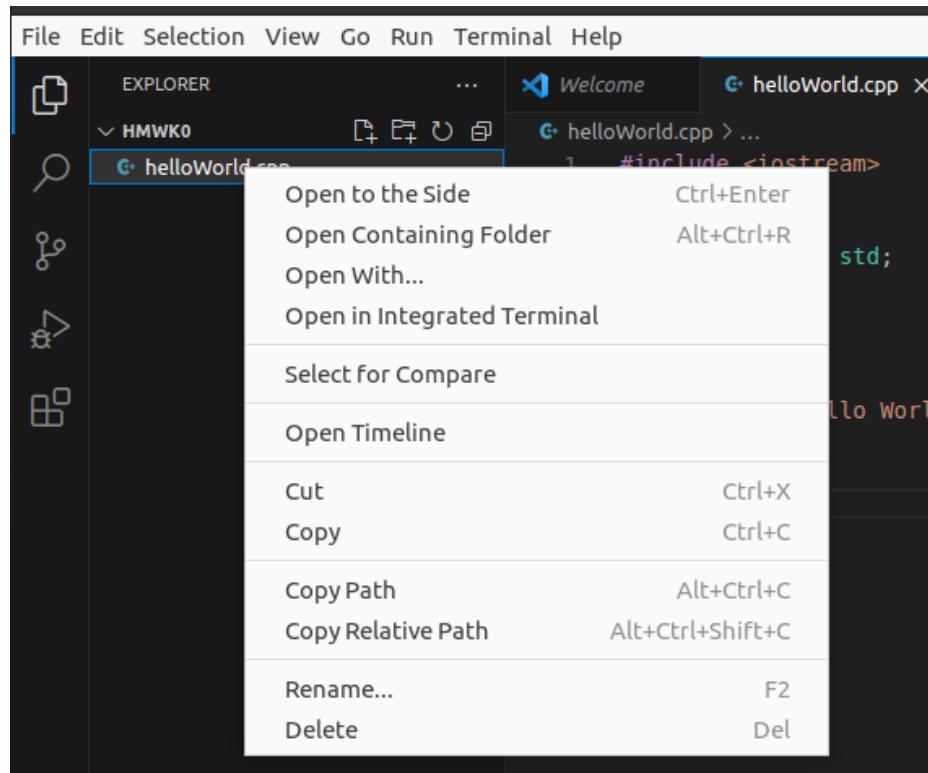
```
{  
    cout << "Hello World!" << endl;  
    return 0;  
}
```

Once that's done, the top left of your VSCode window should look something like this.

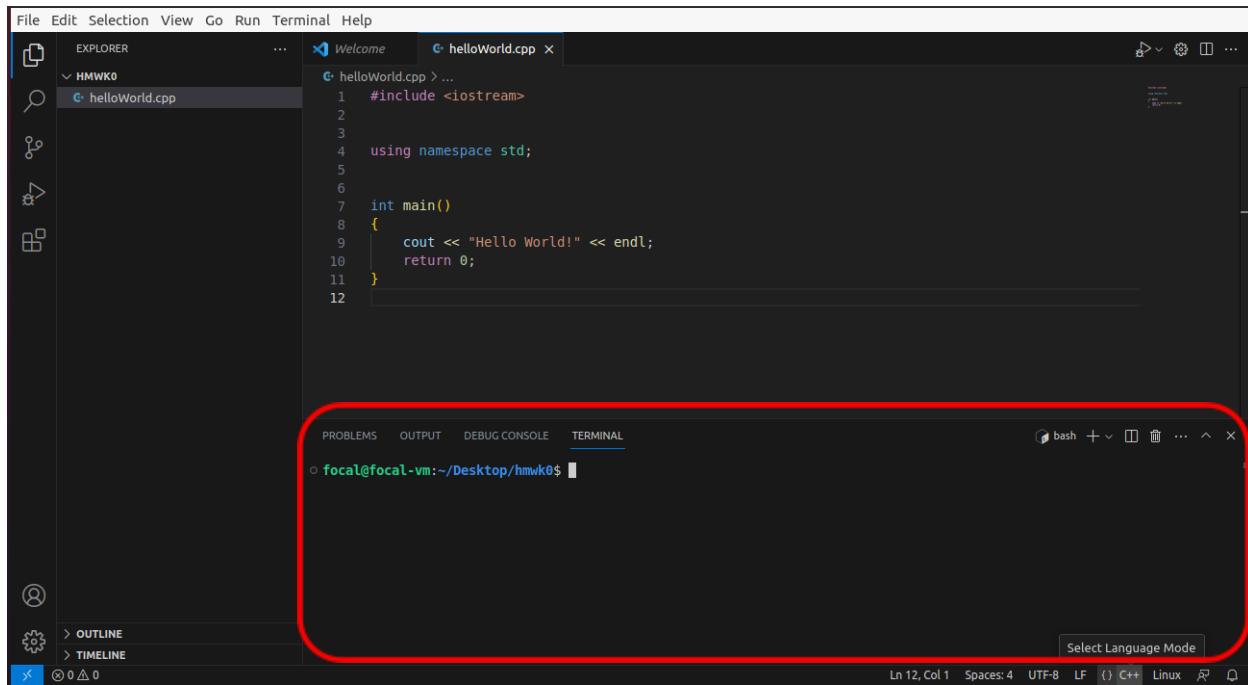


Now that we have created the **helloWorld.cpp** file, we need to open a terminal to compile **helloWorld.cpp** and verify that everything is working correctly.

On the left panel, right-click on the **helloWorld.cpp** file and select “**Open in Integrated Terminal**”.



That should open a terminal at the bottom of your screen that looks like this. By default, VSCode should open it to whatever folder it is that you're working out of.



In order to compile the file, type in the following command into the terminal and press Enter:  
**g++ -Wall -Werror -Wpedantic -std=c++17 helloWorld.cpp**

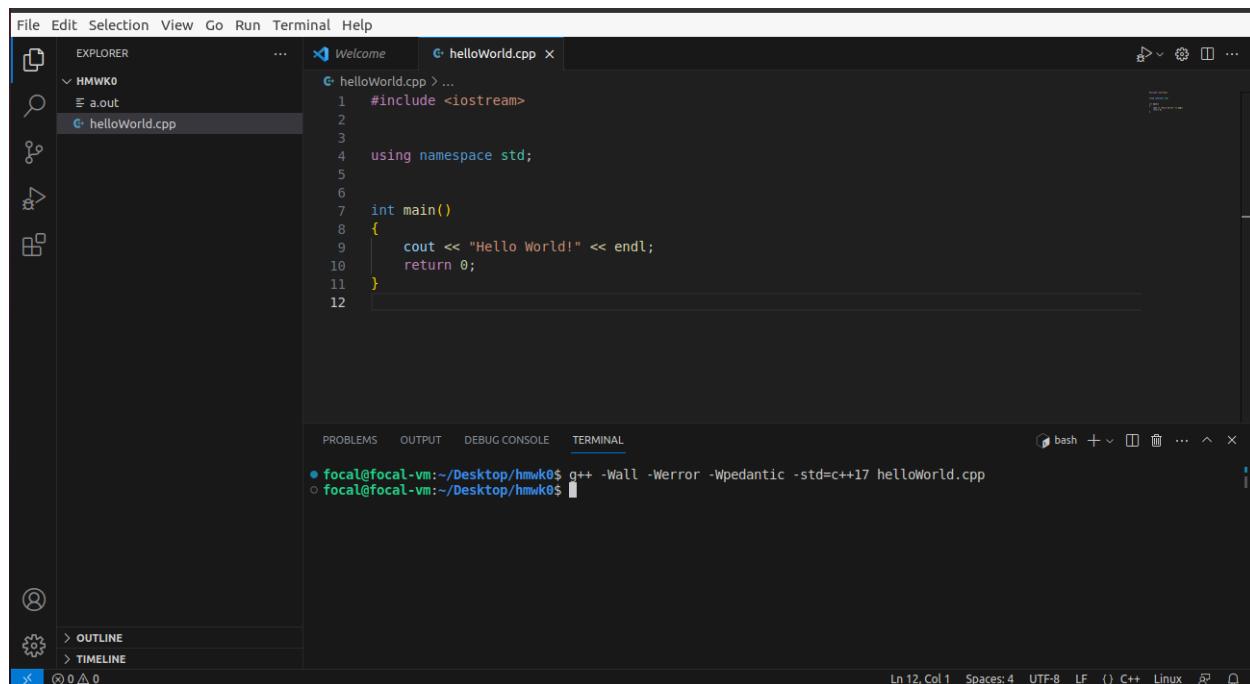
**g++** is the compiler program

**-Wall -Werror -Wpedantic** this will make sure that our code does not violate any standards

**-std=c++17** specifies the version of C++ we want to use

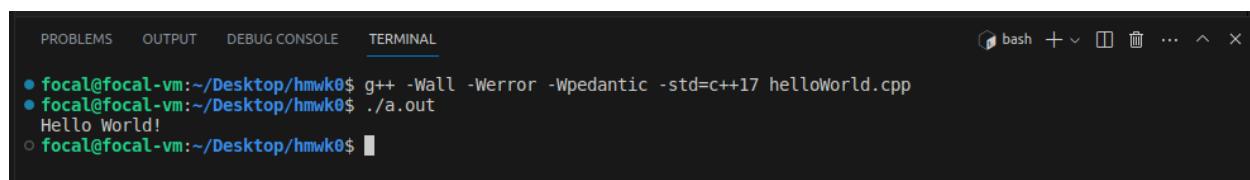
**helloWorld.cpp** is the file we want to compile

This command creates an executable file named **a.out**, which will run the code we wrote in **helloWorld.cpp**. After running the previous steps, your VSCode window and terminal should look something like this (as you can see, a.out also shows up on the left hand side in your directory).



To run the executable we created, type this into the terminal and you should get a result similar to the screenshot below:

**./a.out**



Congrats on your first C++ compilation from the terminal!