

Install Xcode

Open “App Store” from the Applications Folder

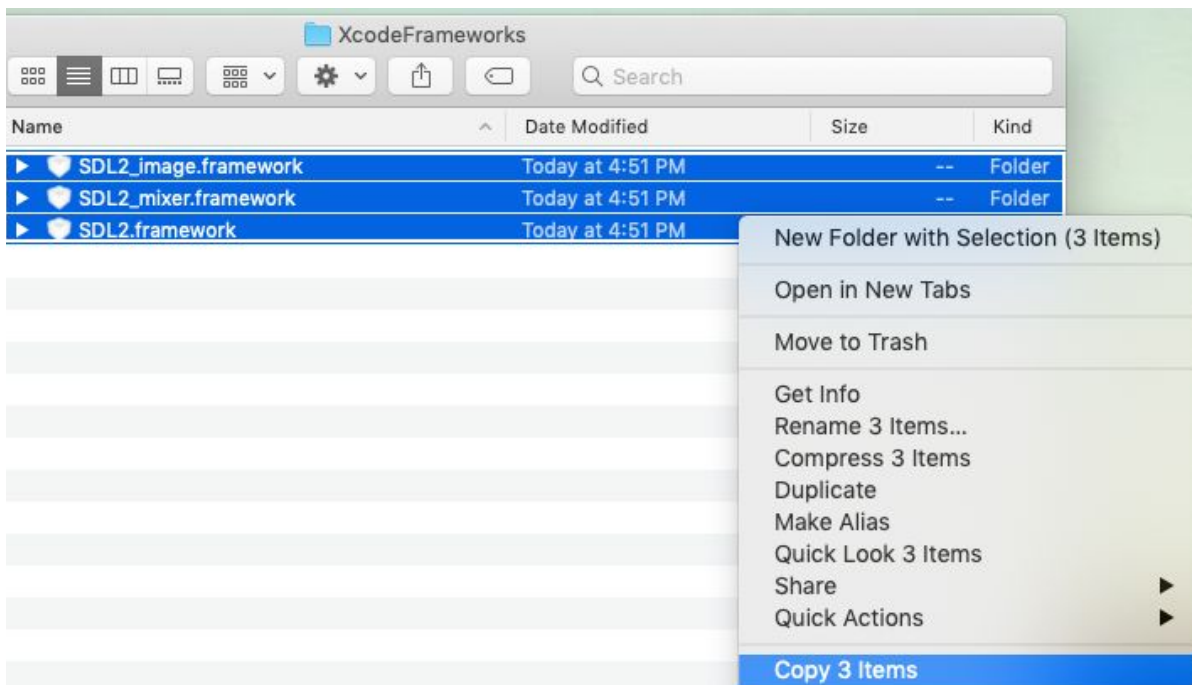
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Install Libraries

Download the **XcodeFrameworks.zip** from the NYU Classes Resource folder.

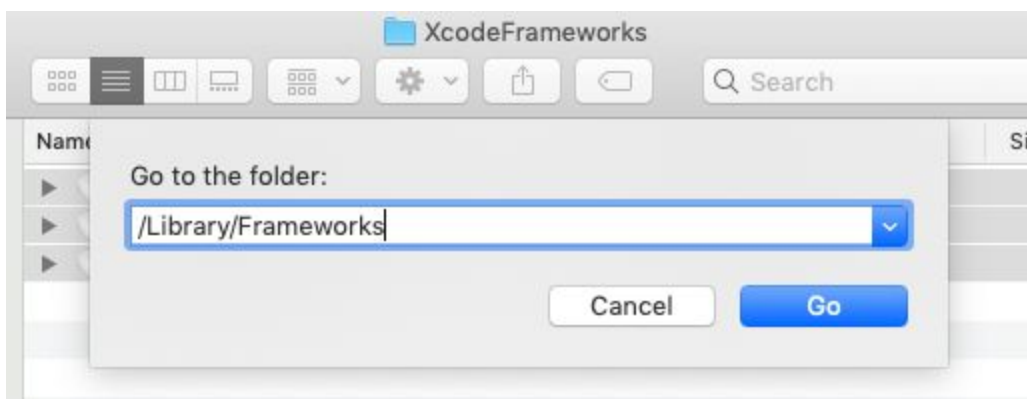
Double click the .zip file and the files should extract into a folder.

Go inside the folder, select the 3 items, Right-Click (or control-click) then select: Copy 3 Items



From the Finder menu (on top) select Go -> Go to Folder

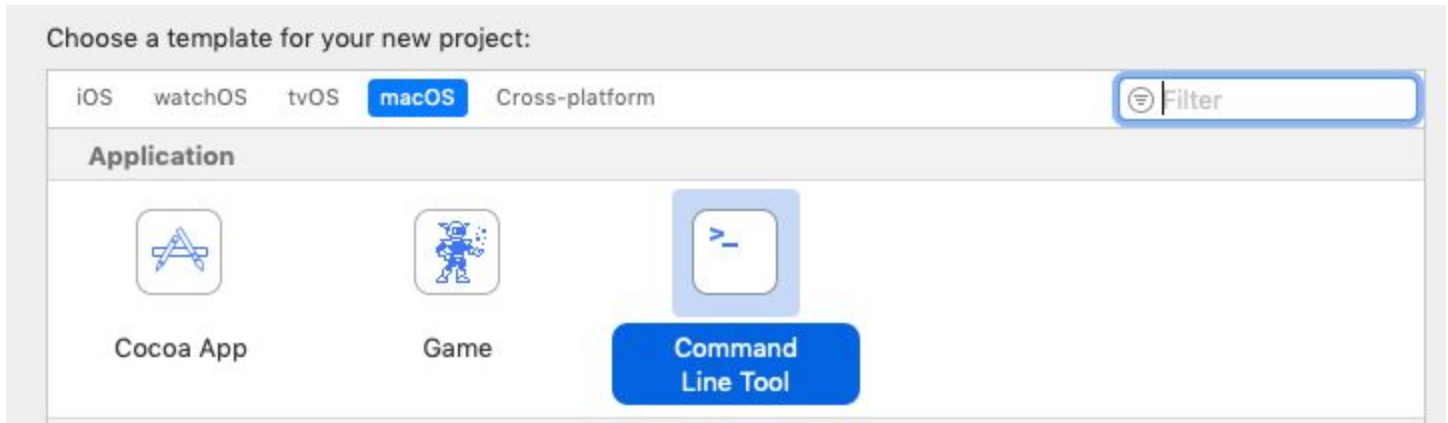
Type in /Library/Frameworks:



Right-Click (or control-click) and select: Paste 3 Items

Setup Your Project

Open Xcode and select: Create new project (you may have to go to File->New->Project)
Select **macOS** and a **Command Line Tool**



For Product Name, enter: **P0**

Organization Identifier, enter “com.your_nyu_id”, for instance, mine is: **com.ctg303**

Language: **C++**

Hit Next and select where you want to save it.

Select **Build Settings** (it's in the top-middle), then click **All**

Scroll down to “Search Paths”

Double click on Header Search Paths.

Click + and enter: `/Library/Frameworks/SDL2_image.framework/Versions/A/Headers`

Click + and enter: `/Library/Frameworks/SDL2.framework/Versions/A/Headers`

Select **Build Phases** (it's next to Build Settings)

Under Link Binary With Libraries...

Click + search for **opengl** and select OpenGL.framework then [Add]

Click + search for **cocoa** and select Cocoa.framework then [Add]

Click + Click “Add Other...”

Hit Command-Shift-G then type in `/Library/Frameworks`

Select all of the SDL Libraries:



Let's Code!

Type the following. Do not copy and paste! You will learn more typing it out.

The program should open up a window in the top left corner. It will stay open until you close the window.

```

#define GL_SILENCE_DEPRECATION

#include <SDL.h>
#include <SDL_opengl.h>

SDL_Window* displayWindow;
bool gameIsRunning = true;

void Initialize() {
    SDL_Init(SDL_INIT_VIDEO);
    displayWindow = SDL_CreateWindow("Hello, World!", SDL_WINDOWPOS_CENTERED,
    SDL_WINDOWPOS_CENTERED, 640, 480, SDL_WINDOW_OPENGL);
    SDL_GLContext context = SDL_GL_CreateContext(displayWindow);
    SDL_GL_MakeCurrent(displayWindow, context);
}

void ProcessInput() {
    SDL_Event event;
    while (SDL_PollEvent(&event)) {
        if (event.type == SDL_QUIT || event.type == SDL_WINDOWEVENT_CLOSE) {
            gameIsRunning = false;
        }
    }
}

void Update() { }

void Render() {
    glClear(GL_COLOR_BUFFER_BIT);
    SDL_GL_SwapWindow(displayWindow);
}

void Shutdown() {
    SDL_Quit();
}

int main(int argc, char* argv[]) {
    Initialize();

    while (gameIsRunning) {
        ProcessInput();
        Update();
        Render();
    }

    Shutdown();
    return 0;
}

```