

# Visual Studio

Install **Visual Studio IDE** if you have not already done so.

<https://visualstudio.microsoft.com/>

The **Community** edition will work fine for this course.

Be sure to **Install Desktop development with C++**

(you may need to scroll down to find it)



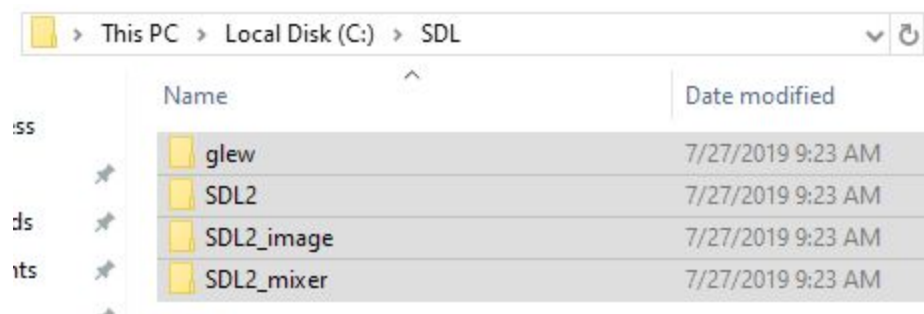
Don't create a project just yet, let's do the next step first.

## Install Libraries

Find the **WindowsLibraries.zip** in the Libraries folder (downloaded from github).

Create a directory on your computer **C:\SDL** (use this **exact name** please)

Unzip the contents of WindowsLibraries.zip into the SDL folder:



## Create a New project

Open Visual Studio, Select "Create a new project" then choose "Empty Project"

Name your project: P0



## Setup Your Project

Right-Click on "Source Files" -> Add -> New Item -> C++ File (.cpp) Name the file: **main.cpp**

Right-Click on the project in the solution explorer and select: **Properties**

Expand the C/C++ area and select: General

Double click in the **Additional Include Directories** area and paste the following:

```
C:\SDL\glew\include;C:\SDL\SDL2\include;C:\SDL\SDL2_image\include;C:\SDL\SDL2_mixer\include;%(AdditionalIncludeDirectories)
```

Expand the Linker area on the left and select: General

Double click in the **Additional Library Directories** area and paste the following:

```
C:\SDL\glew\lib\Release\Win32;C:\SDL\SDL2\lib\x86;C:\SDL\SDL2_image\lib\x86;C:\SDL\SDL2_mixer\lib\x86;%(AdditionalLibraryDirectories)
```

Under the Linker area on the left, select: Input

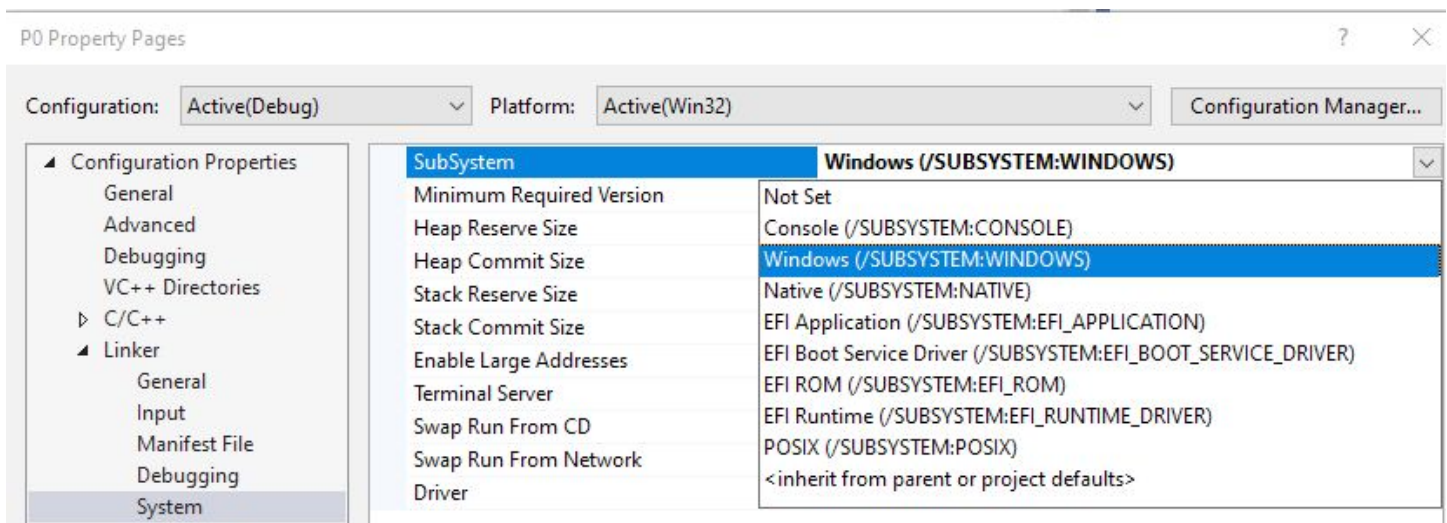
Next to **Additional Dependencies** you can click a downward arrow and then <Edit...>

Paste the following into the top box and click OK

```
opengl32.lib;glew32.lib;SDL2.lib;SDL2main.lib;SDL2_image.lib;SDL2_mixer.lib
```

Under the Linker area on the left, select: System

hit the downward arrow next to **SubSystem** and change from Console to Windows



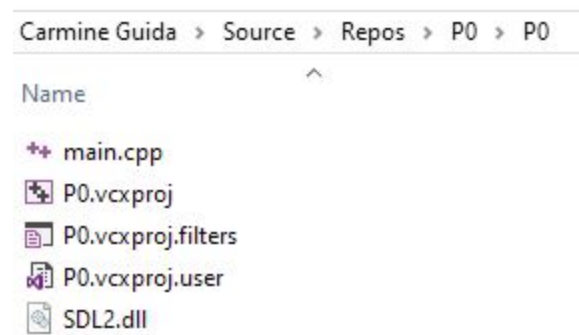
Hit OK. You're done editing the properties.

## Add DLLs

Using the File Explorer (yes, File Explorer, do not do this from inside Visual Studio), navigate to C:\SDL\SDL2\lib\x86\

Right-click on **SDL2.dll** and select **Copy**

In Visual Studio, you can Right-Click on your project and choose: Open Folder in File Explorer  
Right-Click inside that folder (do this in File Explorer, not in Visual Studio), and select: Paste  
It should look something like this:



Do the same for the following DLL:

C:\SDL\glew\bin\Release\Win32\glew32.dll

## Let's Code!

In Visual Studio, in the Source Files folder, open your **main.cpp** file.

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;
}

```

## That was ridiculous! Let's make a template!

Inside Visual Studio, highlight your project.

From the Visual Studio menu (on top), select Project -> Export Template

The current project should already be selected, click [Next >]

Name the template CS3113

Be sure "Automatically import the template into Visual Studio" is checked.

Click [Finish]

Here is all you need to do next time you start a project:

- Create New Project
- Select "CS3113" (might need to scroll to the bottom)
- Name your project something such as: P1
- Copy the glew32.dll and SDL2.dll using File Explorer (you can copy from a previous project).
- Happy Coding!