**Installing OpenGL and Running OpenGL Programs on Microsoft Windows 10**

Go to [https://sourceforge.net/projects/orwelldevcpp](https://sourceforge.net/projects/orwelldevcpp/) and follow the links there to download and install Dev-C++ TDM-GCC 4.9.2 32/64bit edition. After Dev-C++ has been successfully installed, do the following:

**Install Free GLUT:**

Download and unzip the file *freeglut-MSVC-3.0.0-2.mp.zip*

from <http://files.transmissionzero.co.uk/software/development/GLUT/freeglut-MSVC.zip>

**On 32-bit Windows:**

1. Copy all the files from freeglut\include\GL to

C:\Program Files (x86)\Dev-Cpp\MinGW64\include\GL

(Note that you may have to create the **GL** folder)

1. Copy the file *freeglut.lib*  from freeglut\lib to

C:\Program Files (x86)\Dev-Cpp\MinGW64\lib

1. Copy the file *freeglut.dll* from freeglut\bin to C:\Program Files (x86)\Dev-Cpp\MinGW64\bin

**On 64-bit Windows:**

1. Copy all the files from freeglut\include\GL to

C:\Program Files (x86)\Dev-Cpp\MinGW64\include\GL

(Note that you may have to create the **GL** folder)

1. Copy the file *freeglut.lib*  from freeglut\lib\x64 to

C:\Program Files (x86)\Dev-Cpp\MinGW64\lib

1. Copy the file *freeglut.dll* from freeglut\bin\x64 to C:\Program Files (x86)\Dev-Cpp\MinGW64\bin

**Install GLEXT:**

1. Download and unzip the file *glext.zip*  from <https://sourceforge.net/projects/glextwin32>
2. Copy all files from glext\include\gl and paste it into

C:\Program Files (x86)\Dev-Cpp\MinGW64\include\GL

1. Copy all files from glext\lib and paste it into C:\Program Files (x86)\Dev-Cpp\MinGW64\lib

**Install GLEW:**

Download and unzip the file *glew-2.2.0-win32.zip*  from <https://sourceforge.net/projects/glew>

**On 32-bit Windows:**

1. Copy all the files from glew-2.2.0\include\GL to

C:\Program Files (x86)\Dev-Cpp\MinGW64\include\GL

1. Copy all the files from glew-2.2.0\lib\Release\Win32 and glew-2.2.0\bin\Release\Win32 to

C:\Program Files (x86)\Dev-Cpp\MinGW64\lib

**On 64-bit Windows:**

1. Copy all the files from glew-2.2.0\include\GL to

C:\Program Files (x86)\Dev-Cpp\MinGW64\include\GL

1. Copy all the files from glew-2.2.0\lib\Release\x64 and glew-2.2.0\bin\Release\x64 to

C:\Program Files (x86)\Dev-Cpp\MinGW64\lib

**Run a Program:**

1. Open Dev-C++ from the Start Menu to bring up the welcome screen.
2. Create a new project by going to File > New > Project
3. Select Basic then Console Application then C++ Project. Name your project and save it by clicking on OK.
4. Goto Project > Project Options or press Ctrl+H. Then goto *Parameters* under Additional command line options: goto *Linker:* and add following three lines:

-lfreeglut

-lopengl32

-lglu32

then click on OK to save it.

1. Write your own code or choose any sample program from the below link:

<https://www.opengl.org/archives/resources/code/samples/glut_examples/examples/examples.html>

<https://www.opengl.org/archives/resources/code/samples/simple>

1. Then save it, run and execute to see its output.