# Resources: Programming in C++

## Installing g++

## **Windows**

Use the "Windows Subsystem for Linux" selecting the "Ubuntu" option for installation. After installation, from within the bash prompt, follow the instructions below for Ubuntu-like Linux. (Spring 2024) I recommend using Ubuntu 22.04 LTS for the Linux version, only because it will be the same version that I am using.

Install an Xserver application in Windows. Here are a couple of choices. As of Spring 2024, VcXsrv appears to be more current.

• Install VcXsrv in Windows for displaying graphical applications. Be sure to configure "no access control".

Inside of a bash prompt edit your .profile and add lines like this at the bottom:

```
export DISPLAY=$(awk '/nameserver / {print $2; exit}' /etc/resolv.conf 2>/dev/null):0
export LIBGL_ALWAYS_INDIRECT=1
```

Irfanview PPM image viewer.

### Mac OS X

Install the command line developer tools. Here's one quide with a couple of options.

### **Ubuntu-like Linux**

Use apt to install the correct packages

```
sudo apt update sudo apt install g++ freeglut3-dev libglu1-mesa-dev libgl1-mesa-dev valgrind libgtest-dev
```