

INTRO TO OPENGL

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OPENGL

Open Graphics Library (**OpenGL**) is a **cross-language, cross-platform** application programming interface (**API**) for rendering 2D and 3D vector graphics.

The API is typically used to interact with a graphics-processing unit (**GPU**), to achieve hardware-accelerated rendering.

Silicon Graphics Inc., (SGI) started developing OpenGL in 1991 and released it in **January 1992**

Applications use it extensively in the fields of **computer-aided design** (CAD), **virtual reality, scientific visualization**, flight simulation, and video games.

GLU, GLEW, GLUT

GLU

GLU (OpenGL Utility Library) is a graphics library for OpenGL, consisting of utility functions which can be used with OpenGL. The functions mainly focus on primitive rendering and mapping between screen- and world-coordinates, etc.

GLEW

GLEW (OpenGL Extension Wrangler Library) is a cross-platform library helps in querying and loading OpenGL Extensions.

GLUT

GLUT (OpenGL Utility Toolkit) is a library of utilities for OpenGL, which primarily focuses on window definition, window control and monitoring of keyboard and mouse input.

OTHER GRAPHICS PACKAGES

- VRML: virtual reality modeling language (for web app's)
- Open inventor: object oriented framework used a wrapper for opengl
- java 2d and java 3d
- RenderMan pixar: complex
- Mathematica and Matlab: very specific
- Vulkan: complex

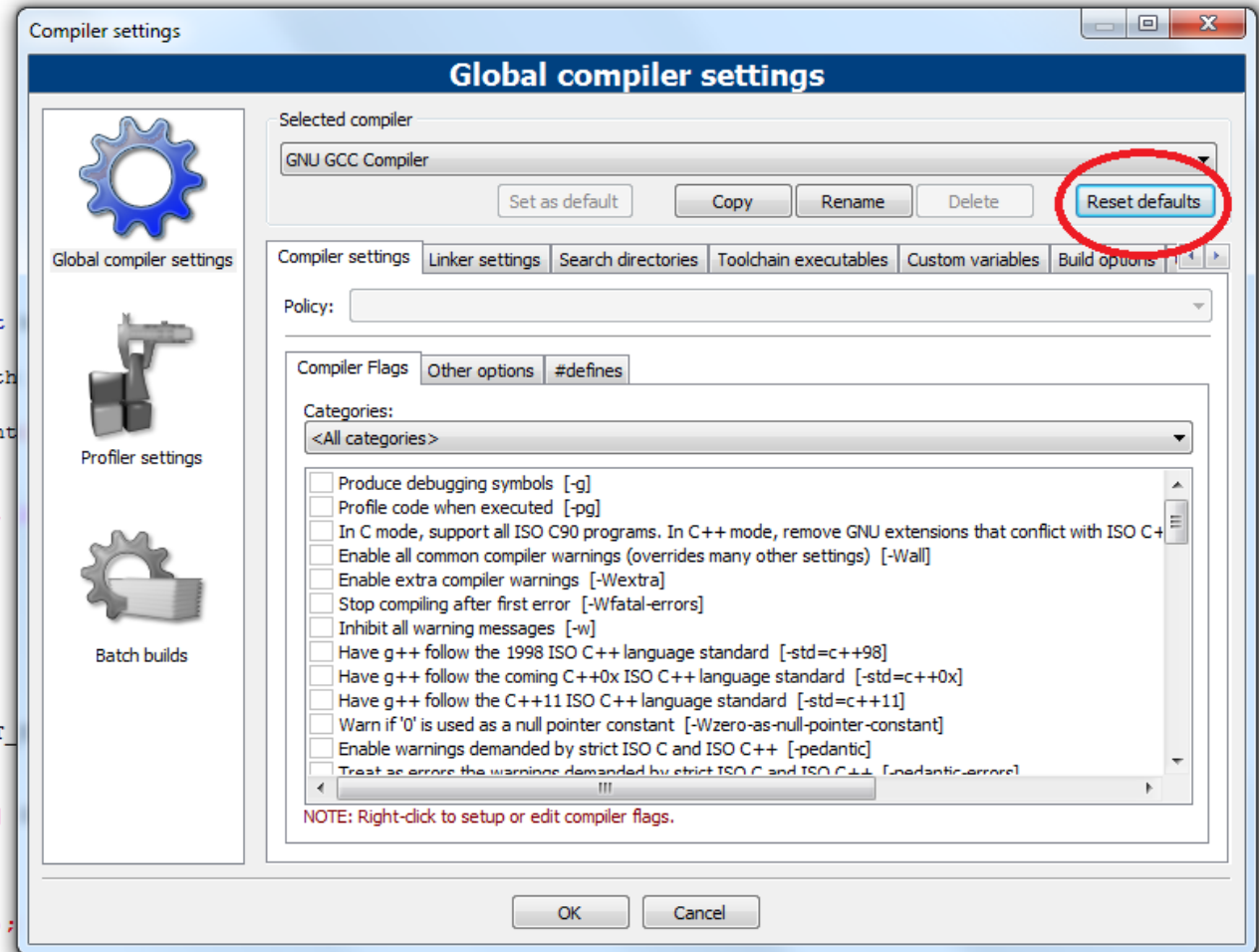
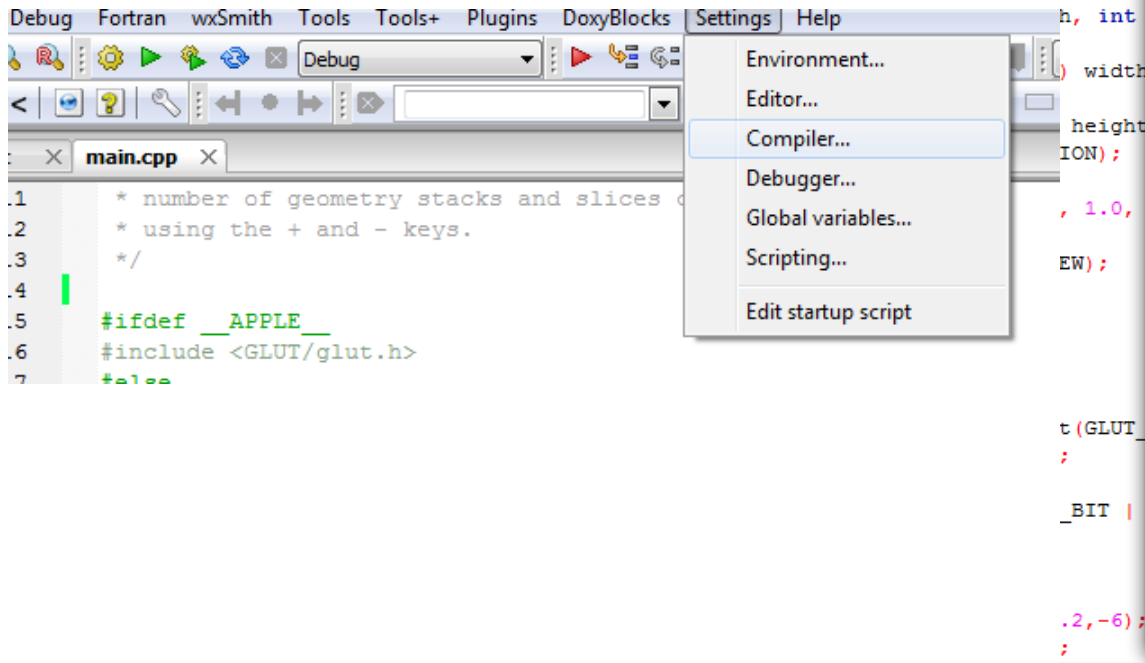
INSTALL CODEBLOCKS



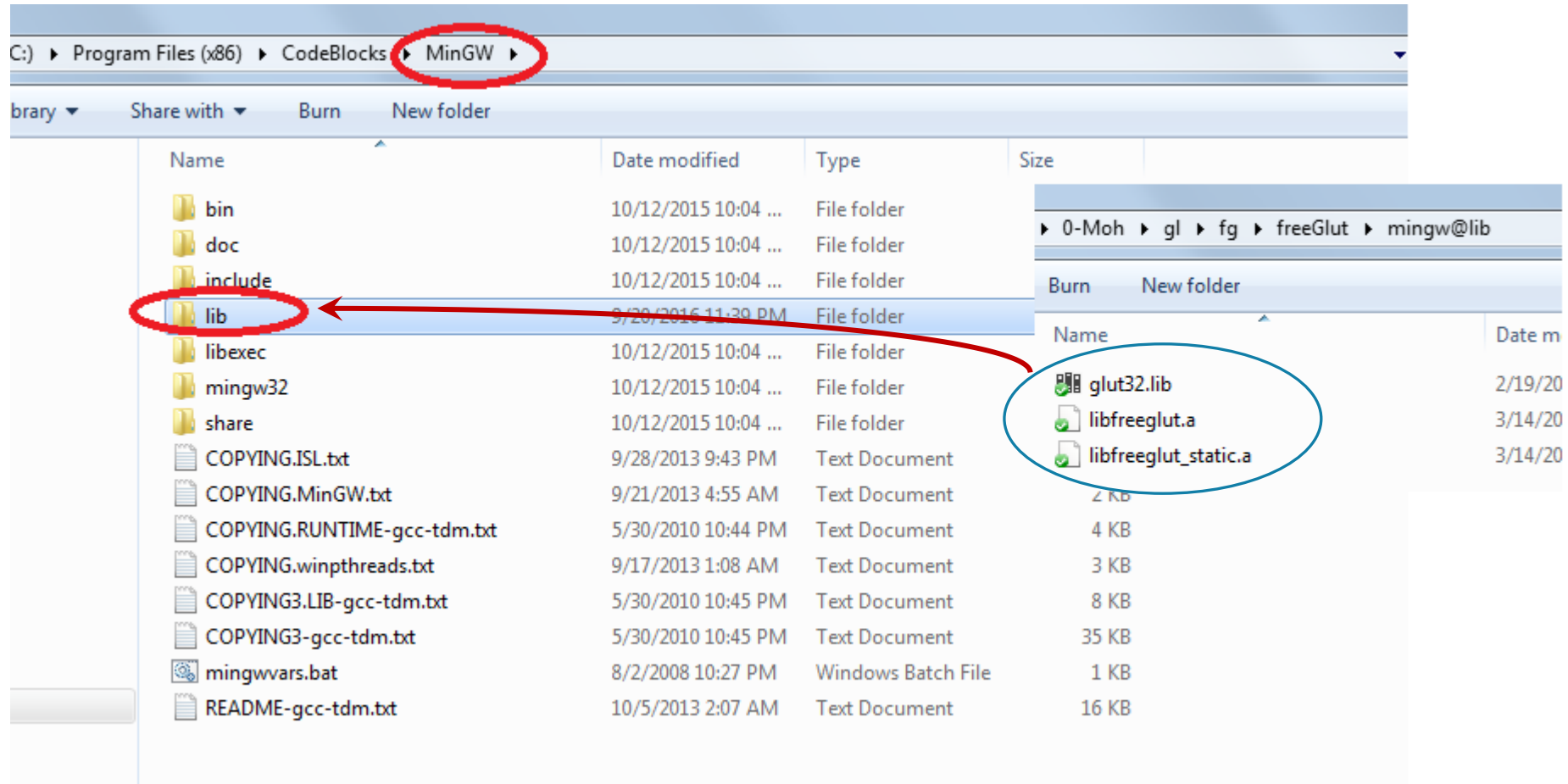
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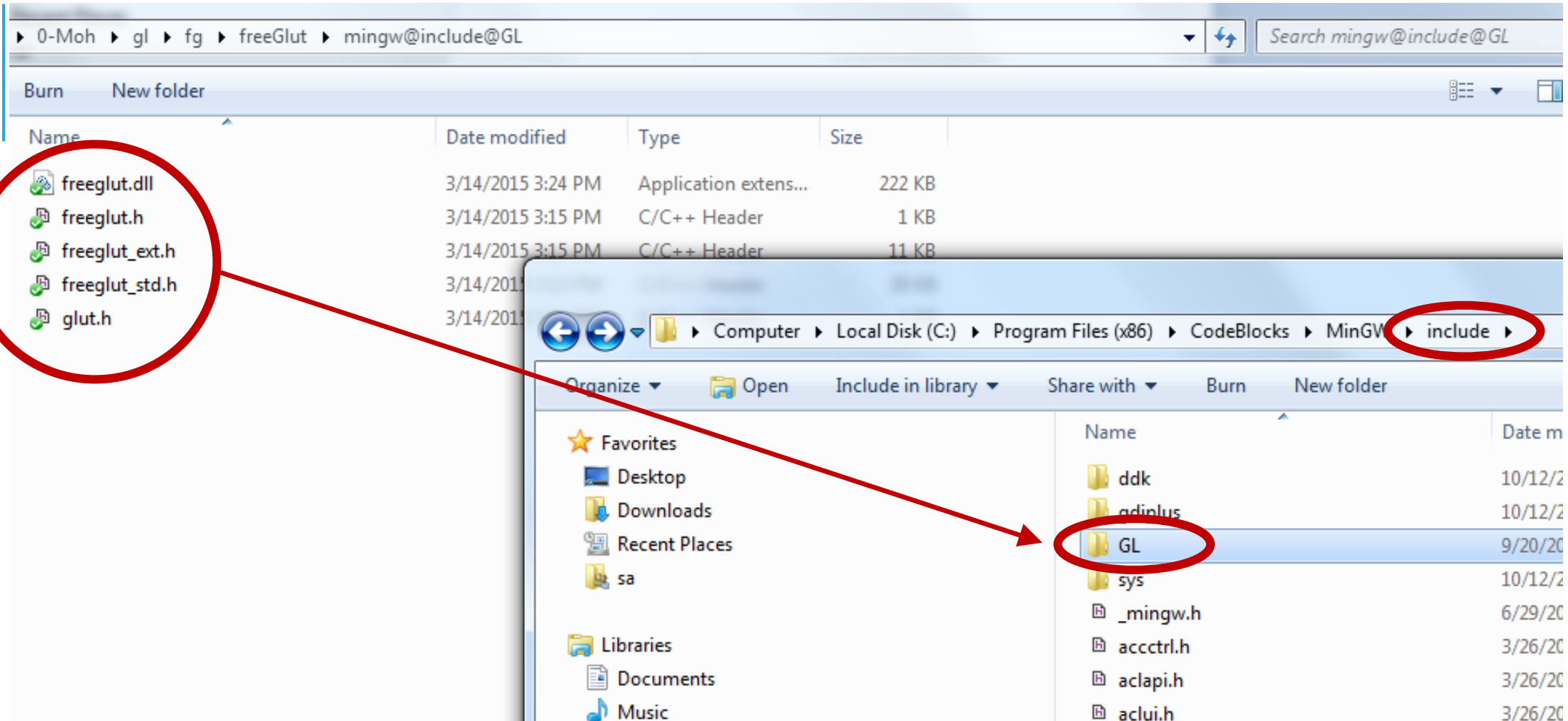
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codeblocks-16.01mingw_fortran-setup.exe	28 Jan 2016

SOMETIMES, FIXING CODEBLOCKS



INSTALLATION OF GLUT LIBRARY





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Burn New folder

Name

glut32.dll

Computer Local Disk (C:) Windows System32

Organize Include in library Share with Burn New folder

★ Favorites

Desktop

Downloads

Recent Places

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Libraries

Documents

Music

Pictures

Videos

Homegroup

Computer

Local Disk (C:)

Local Disk (D:)

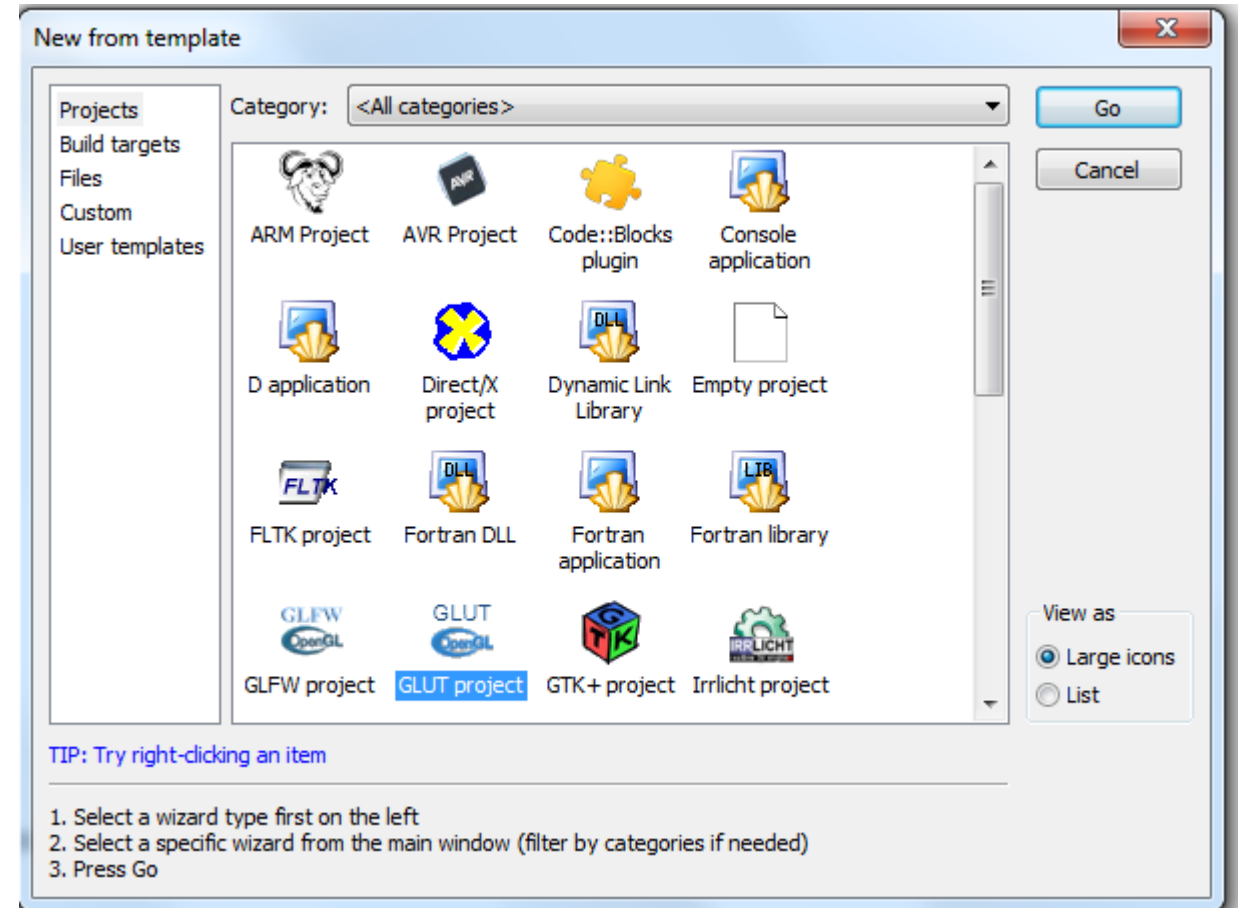
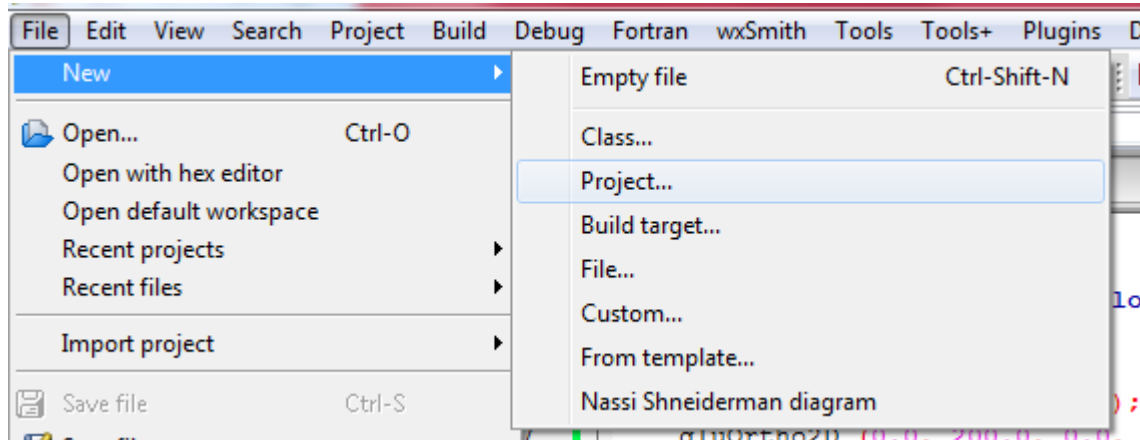
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Name

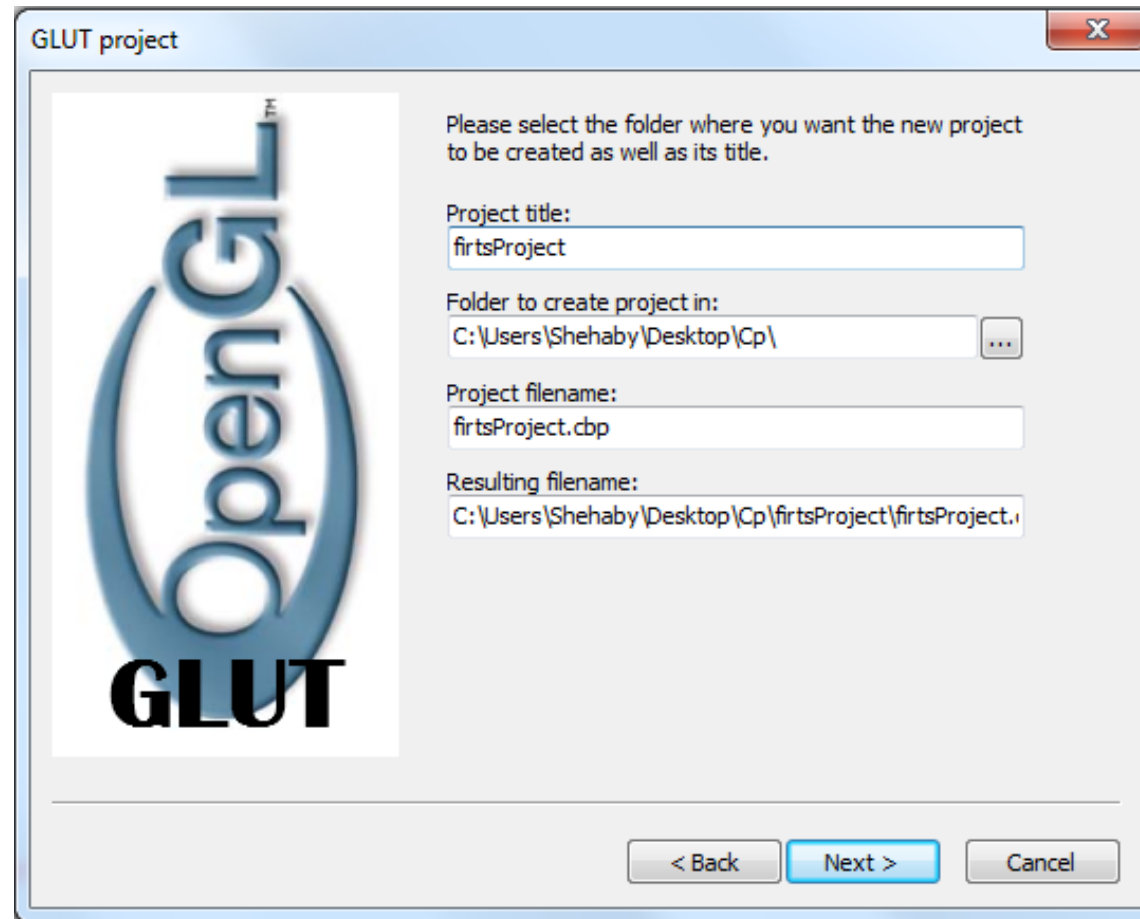
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dinput.dll	7/14/2009 4:40 AM
dinput8.dll	7/14/2009 4:40 AM
diskcomp.com	7/14/2009 2:25 AM
diskcopy.com	7/14/2009 2:25 AM
diskcopy.dll	7/14/2009 4:40 AM
diskmgmt.msc	6/11/2009 12:08 AM
diskpart.exe	11/20/2010 3:24 PM
diskperf.exe	5/25/2015 8:18 PM
diskraid.exe	11/20/2010 3:24 PM
Dism.exe	7/14/2009 4:39 AM
dispci.dll	7/14/2009 4:40 AM
dispdiag.exe	7/14/2009 4:39 AM
dispex.dll	7/14/2009 4:40 AM
Display.dll	11/20/2010 3:26 PM
DisplaySwitch.exe	7/14/2009 4:39 AM
djctq.rs	12/7/2012 1:19 PM
djoin.exe	11/20/2010 3:24 PM
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dmdlas.dll	7/14/2009 4:40 AM

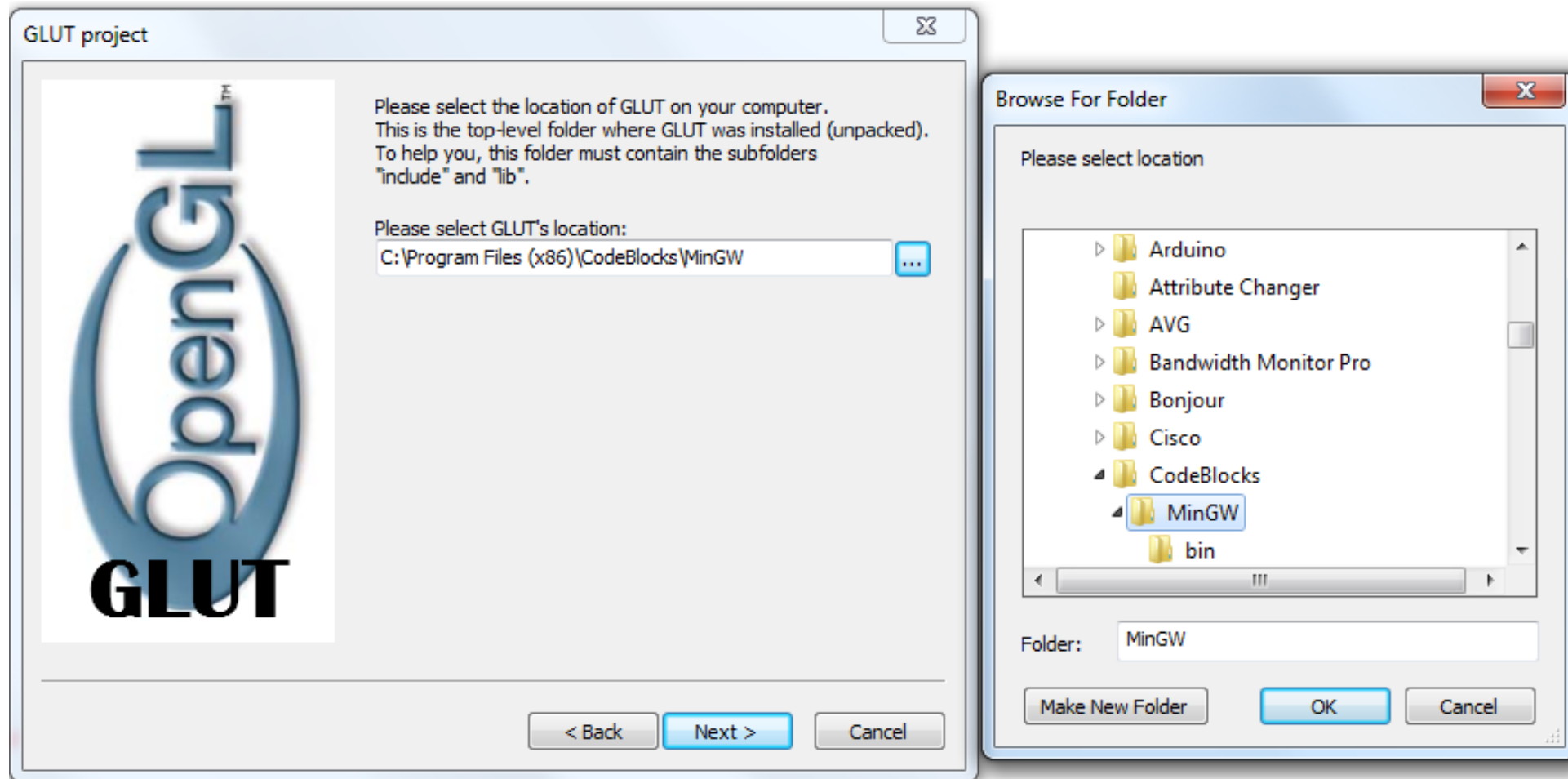
NEW PROJECT

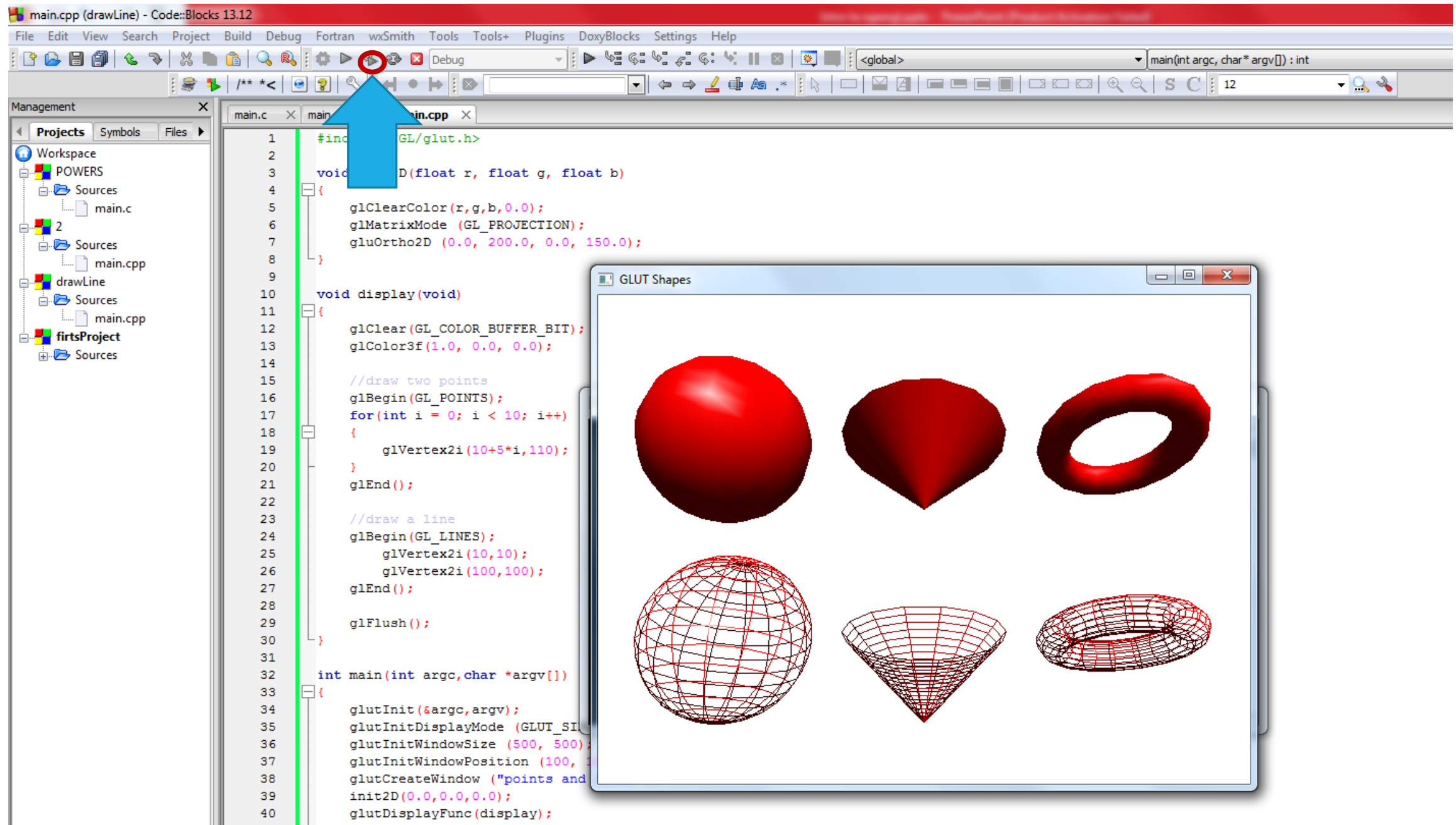


NEW PROJECT CONT'D



NEW PROJECT CONT'D





LINUX (UBUNTU) — COMPILER GCC, G++

Open Terminal Then insert the following commands:

```
# sudo apt-get update
```

```
# sudo apt-get install build-essential
```

```
# sudo apt-get install freeglut3-dev (or libglut3-dev)
```

```
# sudo apt-get install libgl1-mesa-dev libglu1-mesa-dev
```

WINDOWS- .NET VISUAL STUDIO IDE

Install glut library files. Copy the following files to their destination path.

#	File	Destination
1	glut.h	C:\Program Files\Microsoft Visual Studio \VC98\Include\GL
2	glut32.lib	C:\Program Files\Microsoft Visual Studio \VC98\Lib
3	glut32.lib	C:\WINDOWS\system32

N.B.

All those folders and files are included in the folder that contains this tutorial



THANKS