

```

1: ////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
2: //
3: // --- Angel.h ---
4: //
5: // The main header file for all examples from Angel 6th Edition
6: //
7: ////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
8:
9: #ifndef __ANGEL_H__
10: #define __ANGEL_H__
11:
12: //-----
13: //
14: // --- Include system headers ---
15: //
16:
17: #include <cmath>
18: #include <iostream>
19: #include <stdio.h>
20:
21: // Define M_PI in the case it's not defined in the math header file
22: #ifndef M_PI
23: # define M_PI  3.14159265358979323846
24: #endif
25:
26: //-----
27: //
28: // --- Include OpenGL header files and helpers ---
29: //
30: // The location of these files vary by operating system. We've included
31: // copies of open-source project headers in the "GL" directory local
32: // to this "include" directory.
33: //
34:
35: #ifdef __APPLE__ // include Mac OS X versions of headers
36: # include <OpenGL/OpenGL.h>
37: # include <GLUT/glut.h>
38: #else // non-Mac OS X operating systems
39: # include <GL/glew.h>
40: # include <GL/freeglut.h>
41: # include <GL/freeglut_ext.h>
42: #endif // __APPLE__
43:
44: // Define a helpful macro for handling offsets into buffer objects
45: #define BUFFER_OFFSET( offset )  ((GLvoid*)(offset))
46:
47: //-----
48: //
49: // --- Include our class libraries and constants ---
50: //
51:
52: namespace Angel {
53:
54: // Helper function to load vertex and fragment shader files
55: GLuint InitShader( const char* vertexShaderFile,
56:                   const char* fragmentShaderFile );
57:
58: // Defined constant for when numbers are too small to be used in the
59: // denominator of a division operation. This is only used if the
60: // DEBUG macro is defined.
61: const GLfloat DivideByZeroTolerance = GLfloat(1.0e-07);
62:
63: // Degrees-to-radians constant

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64: const GLfloat DegreesToRadians = M_PI / 180.0;
65:
66: } // namespace Angel
67:
68: #include "vec.h"
69: #include "mat.h"
70: #include "CheckError.h"
71:
72: #define Print(x) do { std::cerr << #x " = " << (x) << std::endl; } while(0)
73:
74: // Globally use our namespace in our example programs.
75: using namespace Angel;
76:
77: #endif // __ANGEL_H__
```